



**FCC 47 CFR PART 15 SUBPART C  
INDUSTRY CANADA RSS-247 ISSUE 1**

**CERTIFICATION TEST REPORT**

**FOR**

**BT, BLE and 802.11 a/b/g/n RADIO MODULE**

**MODEL NUMBER: CONAPPWM**

**FCC ID: MHI-CONAPPWM  
IC ID: 3681C-CONAPPWM**

**REPORT NUMBER: 16U22930-E3V2  
ISSUE DATE: 9/1/2016**

*Prepared for*  
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**NVLAP LAB CODE 200065-0**

Revision History

| Rev. | Issue Date | Revisions            | Revised By  |
|------|------------|----------------------|-------------|
| V1   | 03/25/16   | Initial Issue        | C. Vergonio |
| V2   | 09/01/16   | Updated Section 5.5. | C. Vergonio |

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## 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** CARD ACCESS INC.  
11778 SOUTH ELECTION RD. #260  
DRAPER, UT 84020, USA

**EUT DESCRIPTION:** BT, BLE and 802.11 a/b/g/n RADIO MODULE

**MODEL:** CONAPPWM

**SERIAL NUMBER:** 427258, 427299, 427300

**DATE TESTED:** FEBRUARY 27 - March 24, 2016

| APPLICABLE STANDARDS            |              |
|---------------------------------|--------------|
| STANDARD                        | TEST RESULTS |
| CFR 47 Part 15 Subpart C        | Pass         |
| INDUSTRY CANADA RSS-247 Issue 1 | Pass         |
| INDUSTRY CANADA RSS-GEN Issue 4 | Pass         |

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

**Note:** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

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## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, ANSI C63.10-2013, RSS-GEN Issue 4, RSS-247 Issue 1.

## 3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA. Line conducted emissions are measured only at the 47173 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

| 47173 Benicia Street                          | 47266 Benicia Street               |
|-----------------------------------------------|------------------------------------|
| <input checked="" type="checkbox"/> Chamber A | <input type="checkbox"/> Chamber D |
| <input checked="" type="checkbox"/> Chamber B | <input type="checkbox"/> Chamber E |
| <input type="checkbox"/> Chamber C            | <input type="checkbox"/> Chamber F |
|                                               | <input type="checkbox"/> Chamber G |
|                                               | <input type="checkbox"/> Chamber H |

The above test sites and facilities are covered under FCC Test Firm Registration # 208313.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0.

Chambers A through H are covered under Industry Canada company address code 2324B with site numbers 2324B -1 through 2324B-8, respectively.

## 4. CALIBRATION AND UNCERTAINTY

### 4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

### 4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

$$\begin{aligned} \text{Field Strength (dBuV/m)} &= \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \\ &\text{Cable Loss (dB)} - \text{Preamplifier Gain (dB)} \\ 36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} &= 28.9 \text{ dBuV/m} \end{aligned}$$

### 4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

| PARAMETER                                | UNCERTAINTY |
|------------------------------------------|-------------|
| Conducted Disturbance, 0.15 to 30 MHz    | 3.52 dB     |
| Radiated Disturbance, 9KHz to 30 MHz     | 2.14 dB     |
| Radiated Disturbance, 30 to 1000 MHz     | 4.98 dB     |
| Radiated Disturbance, 1000 to 6000 MHz   | 3.86 dB     |
| Radiated Disturbance, 6000 to 18000 MHz  | 4.23 dB     |
| Radiated Disturbance, 18000 to 26000 MHz | 5.30 dB     |

Uncertainty figures are valid to a confidence level of 95%.

## 5. EQUIPMENT UNDER TEST

### 5.1. DESCRIPTION OF EUT

The EUT is a BT, BLE and 802.11 a/b/g/n RADIO MODULE.

### 5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

| Frequency Range<br>(MHz) | Mode         | Output Power<br>(dBm) | Output Power<br>(mW) |
|--------------------------|--------------|-----------------------|----------------------|
| 2412 - 2462              | 802.11b      | 12.70                 | 18.62                |
| 2412 - 2462              | 802.11g      | 17.13                 | 51.64                |
| 2412 - 2462              | 802.11n HT20 | 15.50                 | 35.48                |
| 2422 - 2452              | 802.11n HT40 | 12.17                 | 16.48                |

### 5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an PIFA antenna, with a maximum gain of -4dBi.

### 5.4. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was BusyBox, rev.1.19.4 <2016-02-18 14:39:10 MST> built-In Shell (ash).

The test utility software used during testing was Tera Term, rev 4.8.3(SVN#5602)



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## **5.5. WORST-CASE CONFIGURATION AND MODE**

Below 1GHz Radiated emission and power line conducted emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

The fundamental of the EUT was investigated in three orthogonal orientations X,Y,Z, it was determined that Z orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in Z orientation.

Worst-case data rates as provided by the client were:

Based on the baseline scan, the worst-case data rates were:

802.11b mode: 1 Mbps

802.11g mode: 6 Mbps

802.11n HT20mode: MCS0

802.11n HT40mode: MCS0

## 5.6. DESCRIPTION OF TEST SETUP

### SUPPORT EQUIPMENT

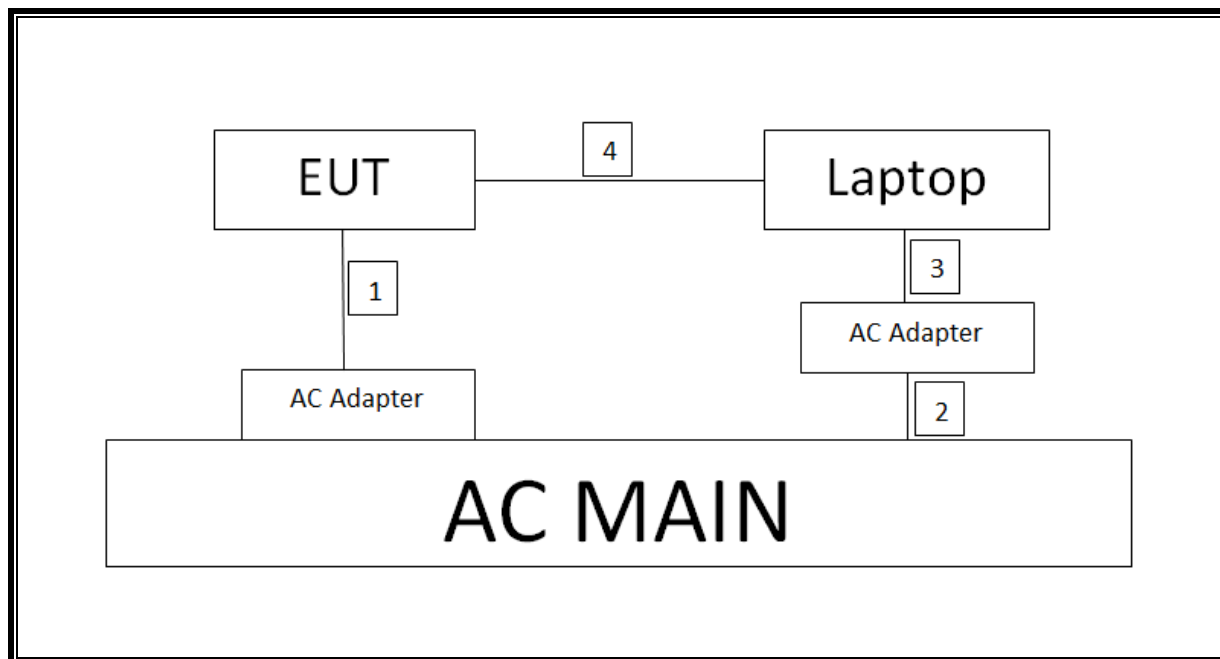
| Support Equipment List |              |             |                        |        |
|------------------------|--------------|-------------|------------------------|--------|
| Description            | Manufacturer | Model       | Serial Number          | FCC ID |
| AC Adapter             | TRIAD        | WSU120-0700 | N/A                    | N/A    |
| Laptop                 | Lenovo       | T430        | PB-05HPL               | N/A    |
| Laptop AC Adapter      | Lenovo       | ADLX90NLT2A | 11S45N0707Z1ZL7436RDM2 | N/A    |

### I/O CABLES

| I/O Cable List |       |                      |                |            |                  |                       |
|----------------|-------|----------------------|----------------|------------|------------------|-----------------------|
| Cable No       | Port  | # of identical ports | Connector Type | Cable Type | Cable Length (m) | Remarks               |
| 1              | AC/DC | 1                    | US115V/12V     | Unshielded | 1                |                       |
| 2              | AC    | 1                    | US115V         | Unshielded | 1                |                       |
| 3              | DC    | 1                    | 20Vdc          | Unshielded | 1.5              | Ferrite on Laptop end |
| 4              | Com   | 1                    | USB/Serial     | Unshielded | 1.5              |                       |

### TEST SETUP

The EUT is stand-alone unit during the tests; test software exercised the radio card via USB-Serial cable.

**SETUP DIAGRAM FOR TESTS**

## 6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

| Test Equipment List                    |                 |                        |            |          |
|----------------------------------------|-----------------|------------------------|------------|----------|
| Description                            | Manufacturer    | Model                  | T Number   | Cal Due  |
| Amplifier, 1-18GHz                     | Miteq           | AFS42-00101800-25-S-42 | 1165       | 07/20/16 |
| Amplifier, 1-8GHz, 35 dB               | Miteq           | AMF-4D-01000800-30-29P | 1172       | 07/20/16 |
| Antenna, Biconolog, 30MHz-1 GHz        | Sunol Sciences  | JB1                    | 122        | 01/29/17 |
| Antenna, Horn, 18GHz                   | ETS Lindgren    | 3117                   | 345        | 02/22/17 |
| Antenna, Horn, 26.5 GHz                | ARA             | MWH-1826/B             | 447        | 05/12/16 |
| ESR7 EMI Test Receiver 7GHz            | Rohde & Schwarz | ESR                    | 1436       | 12/19/16 |
| High Pass Filter 3GHz                  | Micro-Tronics   | HPS17543               | 486        | 07/20/16 |
| High Pass Filter 6GHz                  | Micro-Tronics   | HPS17542               | 484        | 07/20/16 |
| LISN, 30 MHz                           | FCC             | FCC-LISN-50/250-25-2   | 1310       | 09/16/17 |
| Low Pass Filter 5GHz                   | Micro-Tronics   | LPS17541               | 481        | 07/20/16 |
| Peak / Average Power Sensor            | Keysight        | N1921A                 | 750        | 09/17/16 |
| Peak Power Meter                       | Agilent / HP    | N1911A                 | 1268       | 07/06/17 |
| RF Preamplifier, 1GHz - 18GHz          | Miteq           | NSP4000-SP2            | 88         | 04/07/16 |
| RF Preamplifier, 1GHz - 26.5GHz        | HP              | 8449B                  | 404        | 06/29/16 |
| Spectrum Analyzer, 44 GHz              | Agilent / HP    | E4446A                 | 99         | 06/10/16 |
| Spectrum Analyzer, PXA, 3 Hz to 44 GHz | Keysight        | N9030A                 | PRE0126777 | 12/21/16 |

| Test Software List    |              |        |                        |
|-----------------------|--------------|--------|------------------------|
| Description           | Manufacturer | Model  | Version                |
| Radiated Software     | UL           | UL EMC | Ver 9.5, June 24, 2015 |
| Conducted Software    | UL           | UL EMC | Ver 9.5, May 26, 2015  |
| Antenna Port Software | UL           | UL RF  | Ver 4.2, Feb 2, 2016   |

## 7. MEASUREMENT METHODS

On Time and Duty Cycle: KDB 558074 D01 v03r05, Section 6.

6 dB Emission BW: KDB 558074 D01 v03r05, Section 8.

99% BW: ANSI C63.10-2013, Section 6.9.3.

Conducted Output Power: KDB 558074 D01 v03r05, Section 9.2.3.1 (Method AVGPM-G).

Power Spectral Density: KDB 558074 D01 v03r05, Section 10.3 (Method AVGPS-1).

Unwanted emissions in restricted bands: KDB 558074 D01 v03r05, Section 12.0, 12.2.

Unwanted emissions in non-restricted bands: KDB 558074 D01 v03r05, Section 11.1, 11.2, and 11.3

AC Power Line Conducted Emissions: ANSI C63.10-2013, Section 6.2.

Unwanted emissions within Restricted Bands are measured using traditional radiated procedures.

Band edge emissions within Restricted Bands are measured using RMS with duty cycle factor offset method.

## 8. SUMMARY TABLE

| FCC Part Section         | RSS Section(s) | Test Description                        | Test Limit | Test Condition | Test Result |
|--------------------------|----------------|-----------------------------------------|------------|----------------|-------------|
| 15.247 (a)(2)            | RSS-247 5.2.1  | Occupied Bandwidth (6dB)                | >500KHz    | Conducted      | Pass        |
| 2.1051, 15.247 (d)       | RSS-247 5.5    | Band Edge / Conducted Spurious Emission | -30dBc     |                | Pass        |
| 15.247                   | RSS-247 5.4.4  | TX conducted output power               | <30dBm     |                | Pass        |
| 15.247                   | RSS-247 5.2.2  | PSD                                     | <8dBm      |                | Pass        |
| 15.207 (a)               | RSS-GEN 8.8    | AC Power Line conducted emissions       | Section 10 | Radiated       | Pass        |
| 15.205, 15.209 15.247(d) | RSS-GEN 8.9/7  | Radiated Spurious Emission              | < 54dBuV/m |                | Pass        |

## 9. ANTENNA PORT TEST RESULTS

### 9.1. ON TIME AND DUTY CYCLE

#### LIMITS

None; for reporting purposes only.

#### PROCEDURE

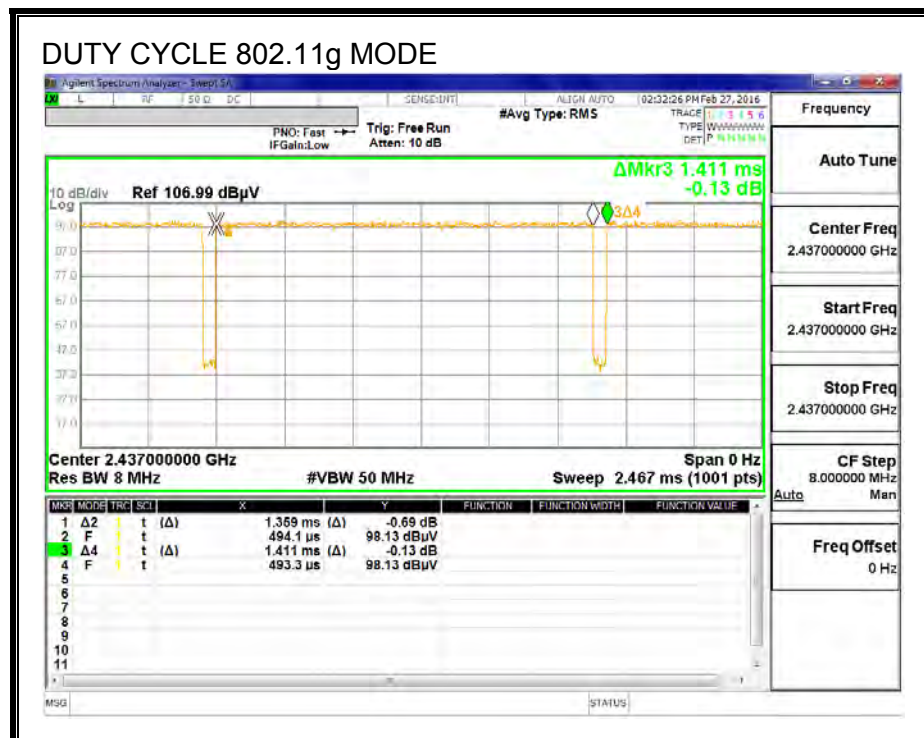
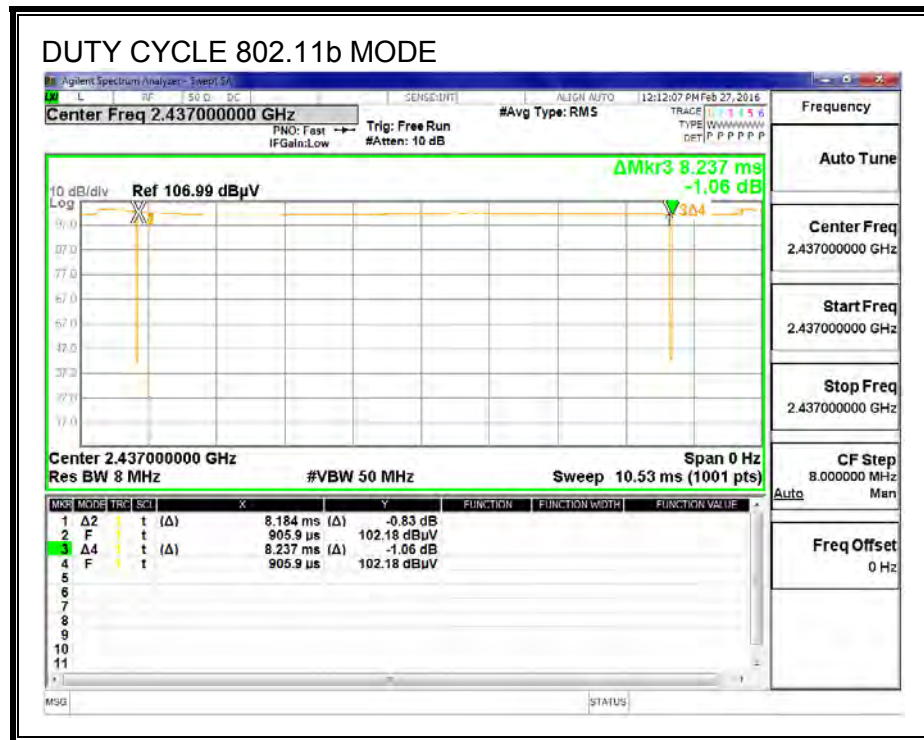
KDB 558074 Zero-Span Spectrum Analyzer Method.

#### ON TIME AND DUTY CYCLE RESULTS

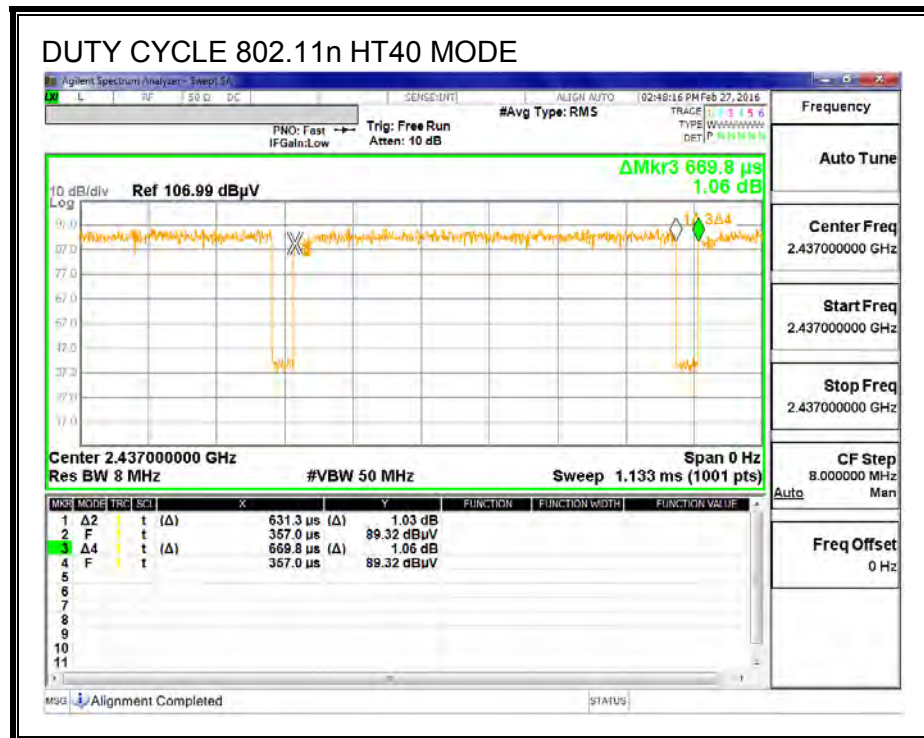
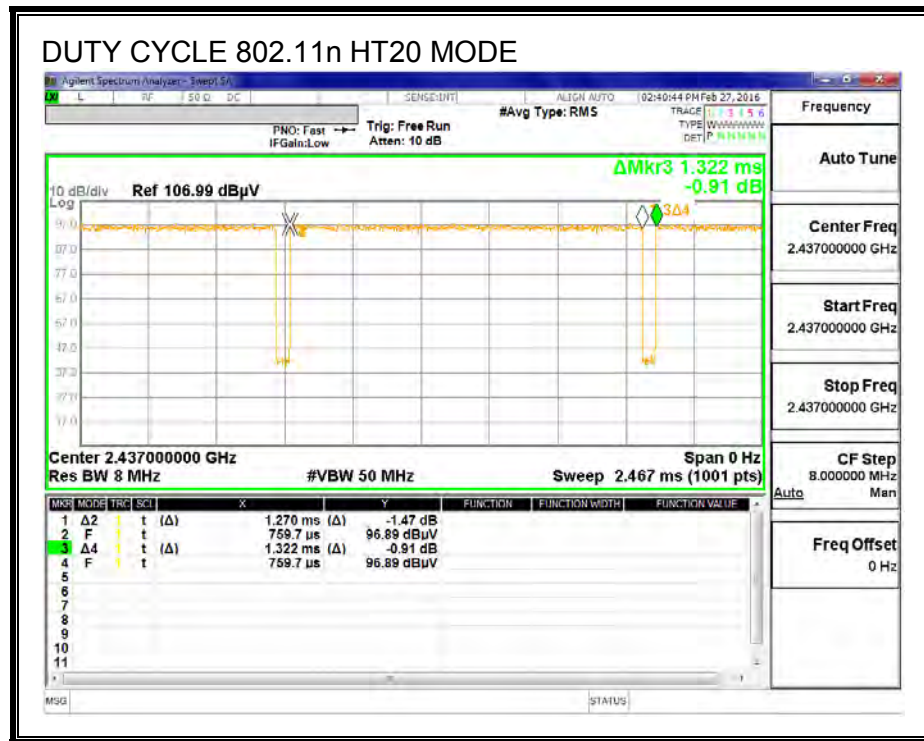
| Mode               | ON Time<br>B<br>(msec) | Period<br>(msec) | Duty Cycle<br>x<br>(linear) | Duty<br>Cycle<br>(%) | Duty Cycle<br>Correction Factor<br>(dB) | 1/B<br>Minimum VBW<br>(kHz) |
|--------------------|------------------------|------------------|-----------------------------|----------------------|-----------------------------------------|-----------------------------|
| <b>2.4GHz Band</b> |                        |                  |                             |                      |                                         |                             |
| 802.11b            | 8.184                  | 8.237            | 0.994                       | 99.36%               | 0.00                                    | 0.010                       |
| 802.11g            | 1.359                  | 1.411            | 0.963                       | 96.31%               | 0.16                                    | 0.736                       |
| 802.11n HT20       | 1.270                  | 1.322            | 0.961                       | 96.07%               | 0.17                                    | 0.787                       |
| 802.11n HT40       | 0.631                  | 0.670            | 0.943                       | 94.25%               | 0.26                                    | 1.584                       |

## DUTY CYCLE PLOTS

### 2.4 GHz BAND







## **9.2. 802.11b MODE IN THE 2.4 GHz BAND**

### **9.2.1. 6 dB BANDWIDTH**

#### **LIMITS**

FCC §15.247 (a) (2)

IC RSS-247 5.2.1

The minimum 6 dB bandwidth shall be at least 500 kHz.

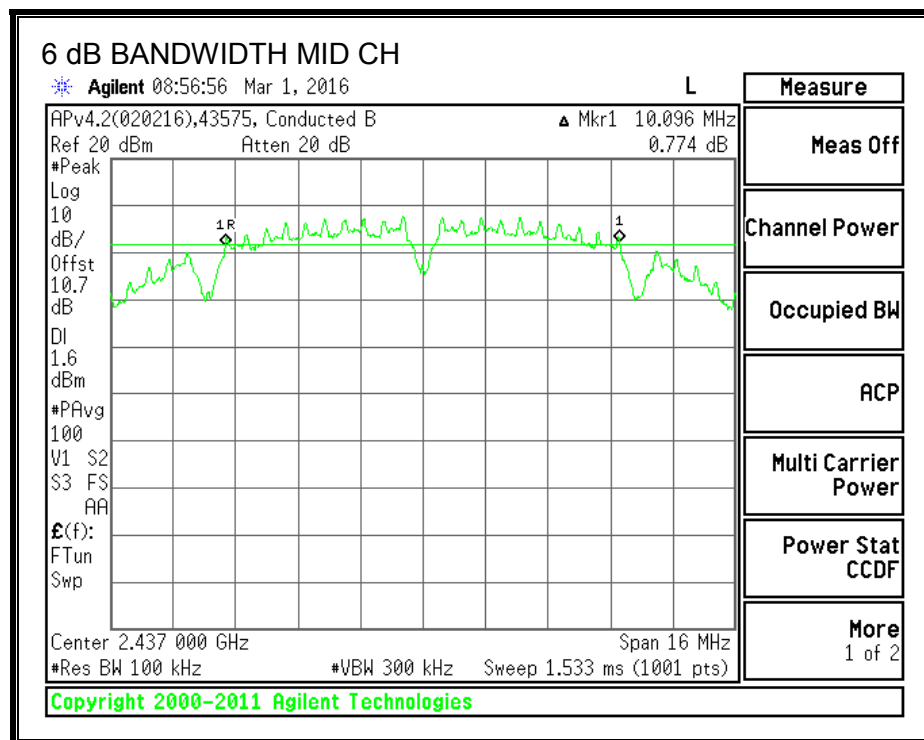
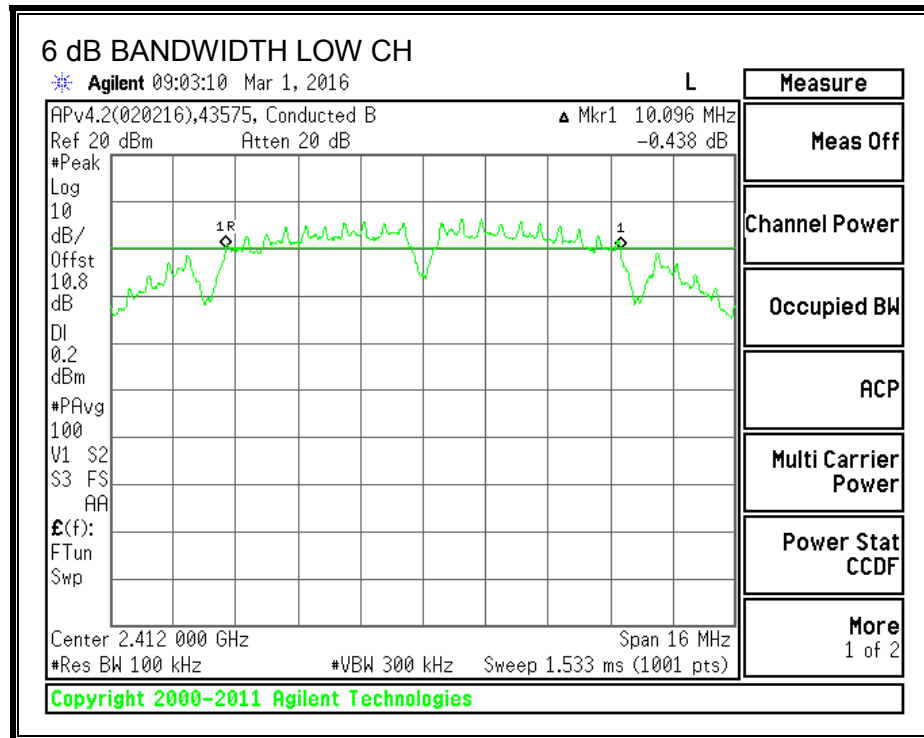
#### **TEST PROCEDURE**

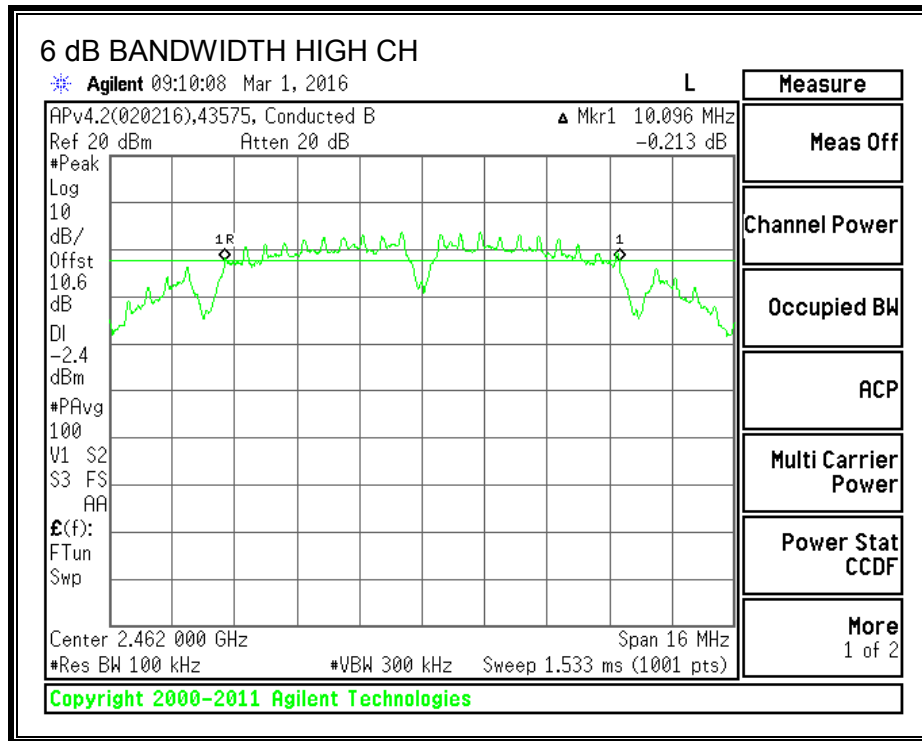
Reference to KDB 558074 D01 DTS Meas Guidance v03r05: The transmitter output is connected to a spectrum analyzer with the RBW set to 100KHz, the VBW  $\geq 3 \times$  RBW, peak detector and max hold.

#### **RESULTS**

| Channel | Frequency<br>(MHz) | 6 dB Bandwidth<br>(MHz) | Minimum Limit<br>(MHz) |
|---------|--------------------|-------------------------|------------------------|
| Low     | 2412               | 10.096                  | 0.5                    |
| Mid     | 2437               | 10.096                  | 0.5                    |
| High    | 2462               | 10.096                  | 0.5                    |

**6 dB BANDWIDTH**





### 9.2.1. 99% BANDWIDTH

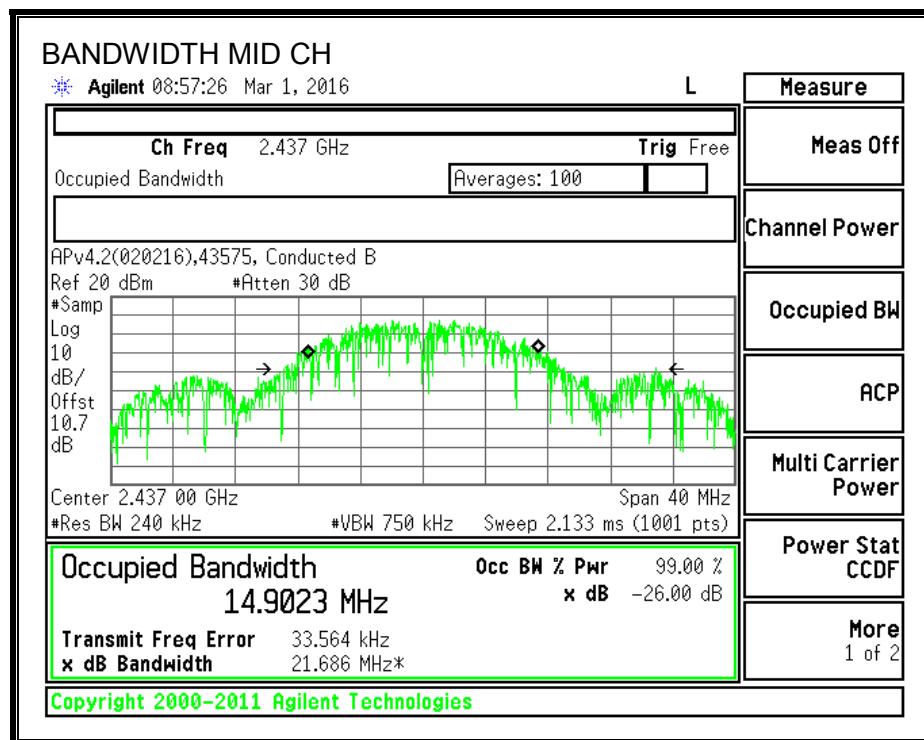
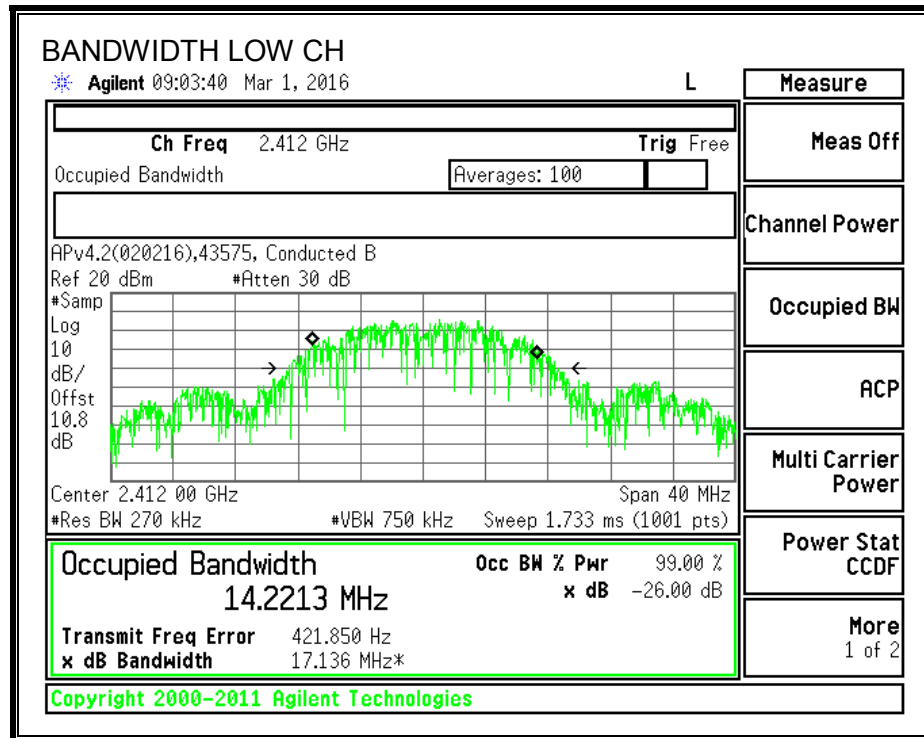
#### LIMITS

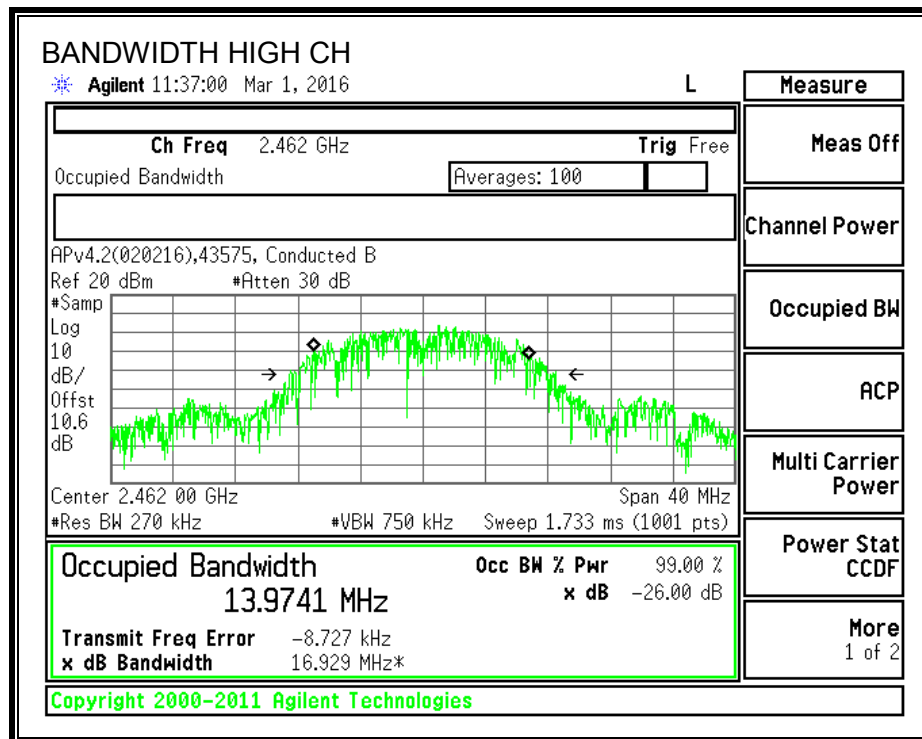
None; for reporting purposes only.

#### RESULTS

| Channel | Frequency<br>(MHz) | 99% Bandwidth<br>(MHz) |
|---------|--------------------|------------------------|
| Low     | 2412               | 14.2213                |
| Mid     | 2437               | 14.9023                |
| High    | 2462               | 13.9741                |

**99% BANDWIDTH**





## **9.2.2. OUTPUT POWER**

### **LIMITS**

FCC §15.247

IC RSS-247 5.4.4

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power of the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

### **DIRECTIONAL ANTENNA GAIN**

There is only one transmitter output, therefore the directional gain is equal to the antenna gain.

### **RESULTS**



**Limits**

| Channel | Frequency<br>(MHz) | Directional<br>Gain<br>(dBi) | FCC<br>Power<br>Limit<br>(dBm) | IC<br>Power<br>Limit<br>(dBm) | IC<br>EIRP<br>Limit<br>(dBm) | Max<br>Power<br>(dBm) |
|---------|--------------------|------------------------------|--------------------------------|-------------------------------|------------------------------|-----------------------|
| Low     | 2412               | -4.00                        | 30.00                          | 30                            | 36                           | 30.00                 |
| Mid     | 2437               | -4.00                        | 30.00                          | 30                            | 36                           | 30.00                 |
| High    | 2462               | -4.00                        | 30.00                          | 30                            | 36                           | 30.00                 |

**Results**

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>Power<br>(dBm) | Total<br>Corr'd<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | Margin<br>(dB) |
|---------|--------------------|-----------------------------------|-----------------------------------|-------------------------|----------------|
| Low     | 2412               | 12.70                             | 12.70                             | 30.00                   | -17.30         |
| Mid     | 2437               | 12.60                             | 12.60                             | 30.00                   | -17.40         |
| High    | 2462               | 12.20                             | 12.20                             | 30.00                   | -17.80         |

**Note:** the power readings above are measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

### 9.2.3. POWER SPECTRAL DENSITY

#### LIMITS

FCC §15.247

IC RSS-247 5.2.2

The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

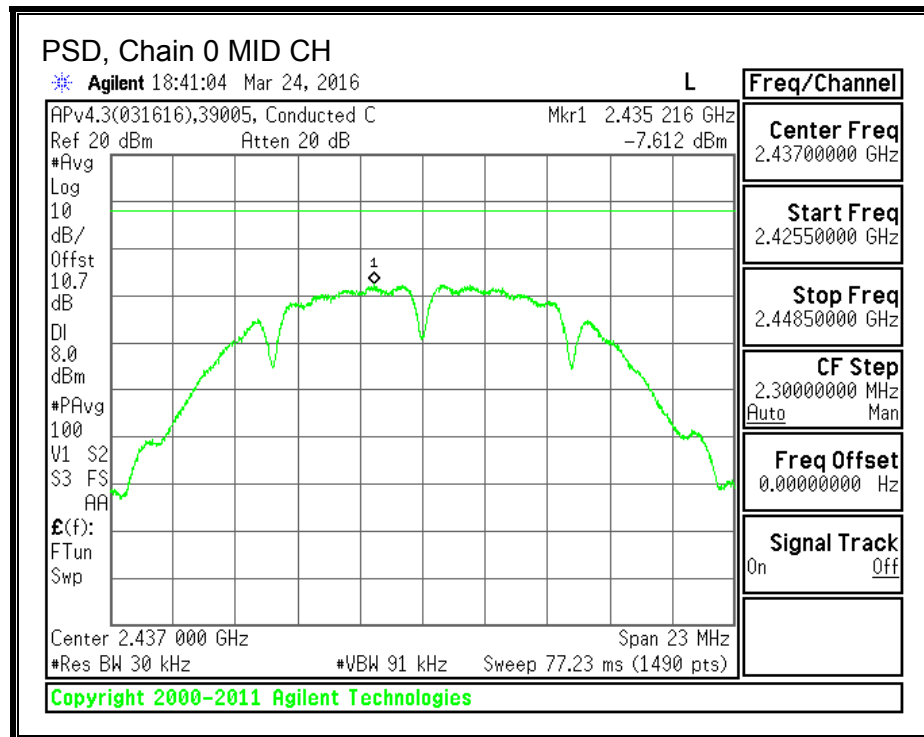
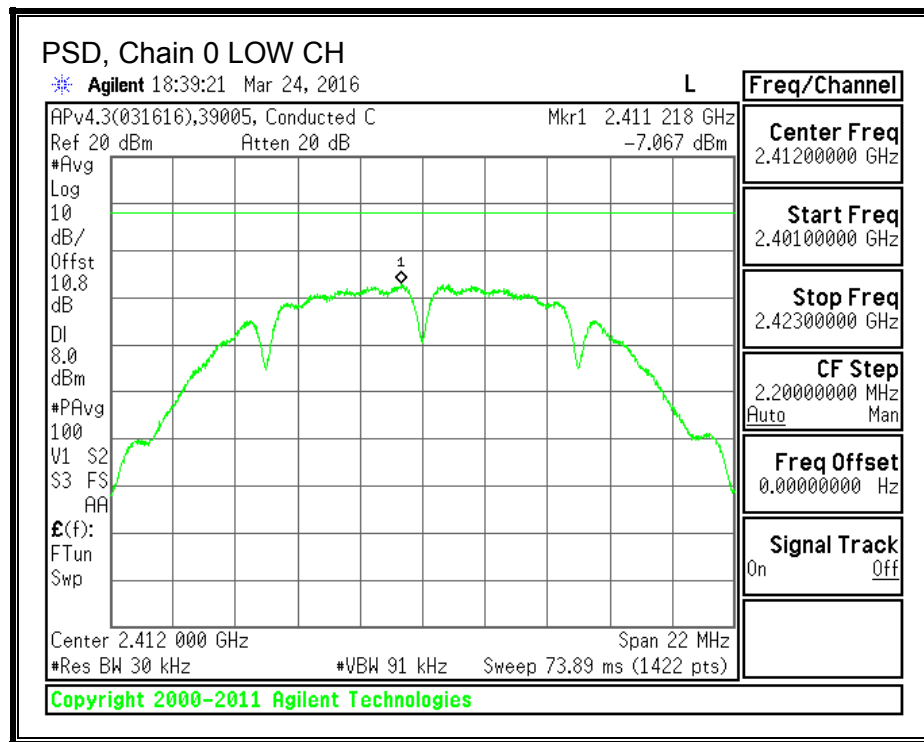
#### RESULTS

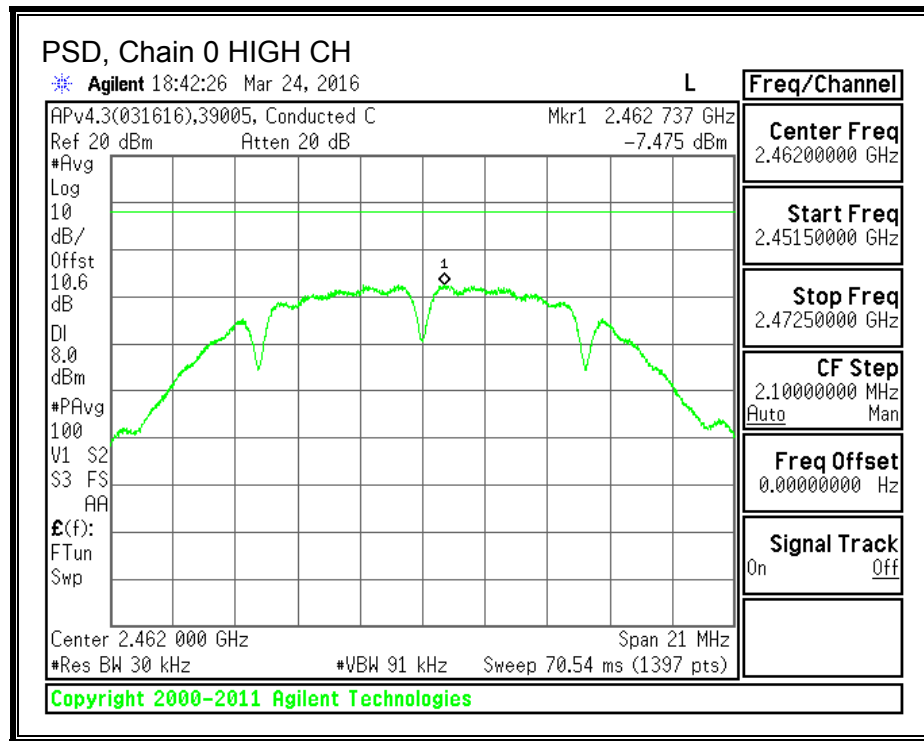
|                           |      |                                               |
|---------------------------|------|-----------------------------------------------|
| <b>Duty Cycle CF (dB)</b> | 0.00 | <b>Included in Calculations of Corr'd PSD</b> |
|---------------------------|------|-----------------------------------------------|

#### PSD Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>(dBm) | Total<br>Corr'd<br>PSD<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|---------|--------------------|--------------------------|---------------------------------|----------------|----------------|
| Low     | 2412               | -7.067                   | -7.07                           | 8.0            | -15.1          |
| Mid     | 2437               | -7.612                   | -7.61                           | 8.0            | -15.6          |
| High    | 2462               | -7.475                   | -7.48                           | 8.0            | -15.5          |

**PSD, Chain 0**





## 9.2.4. OUT-OF-BAND EMISSIONS

### LIMITS

FCC §15.247 (d)

IC RSS-247 5.5

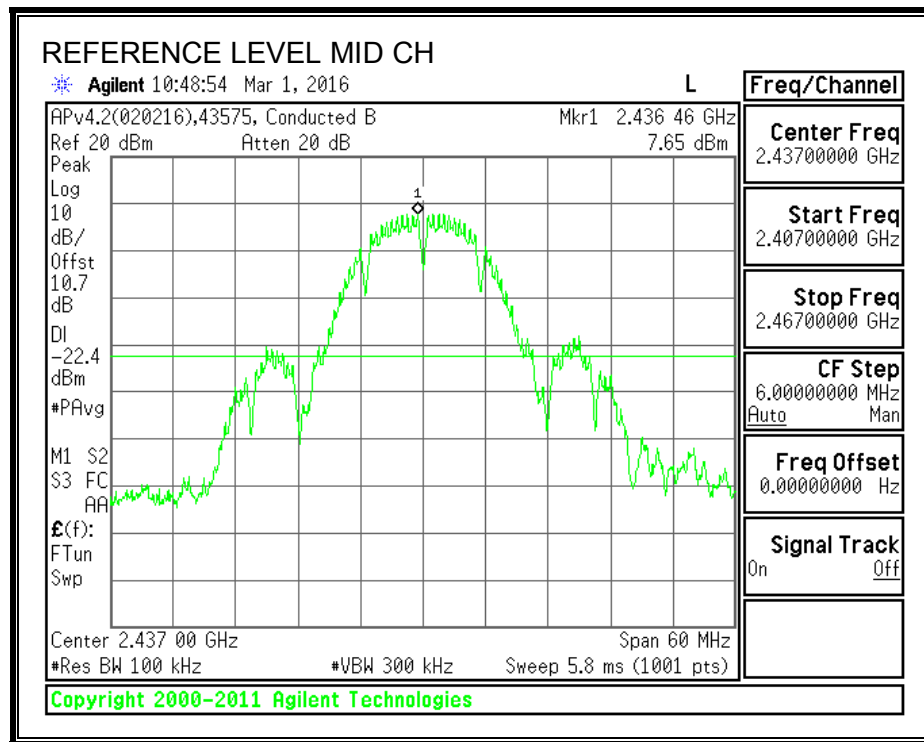
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

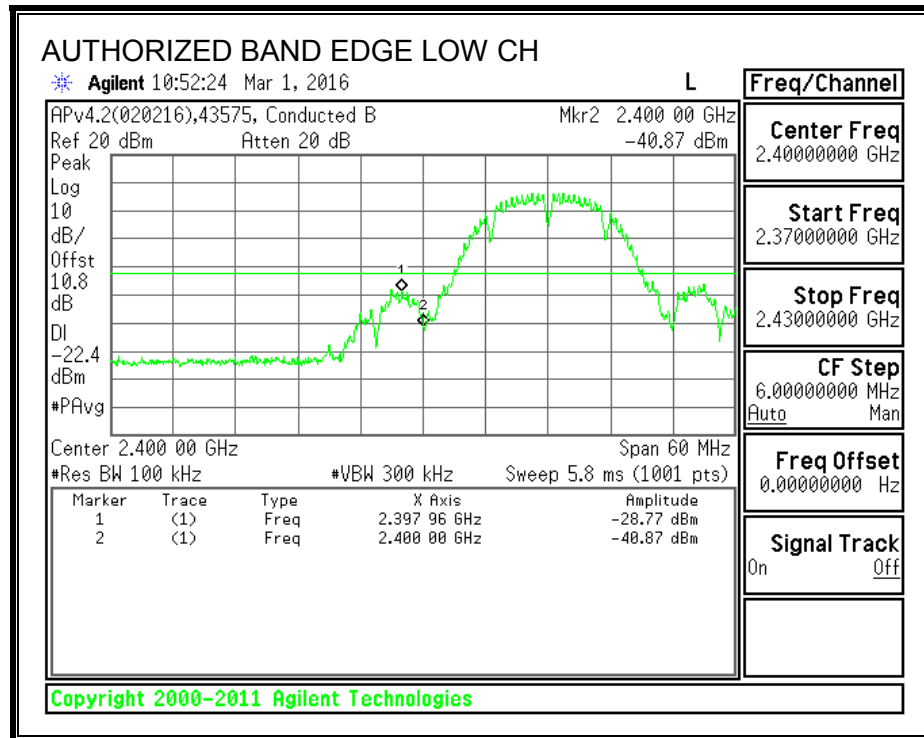
### TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer with RBW = 100 kHz, VBW = 300 kHz, peak detector, and max hold. Measurements utilizing these settings are made of the in-band reference level, bandedge (where measurements to the general radiated limits will not be made) and out-of-band emissions.

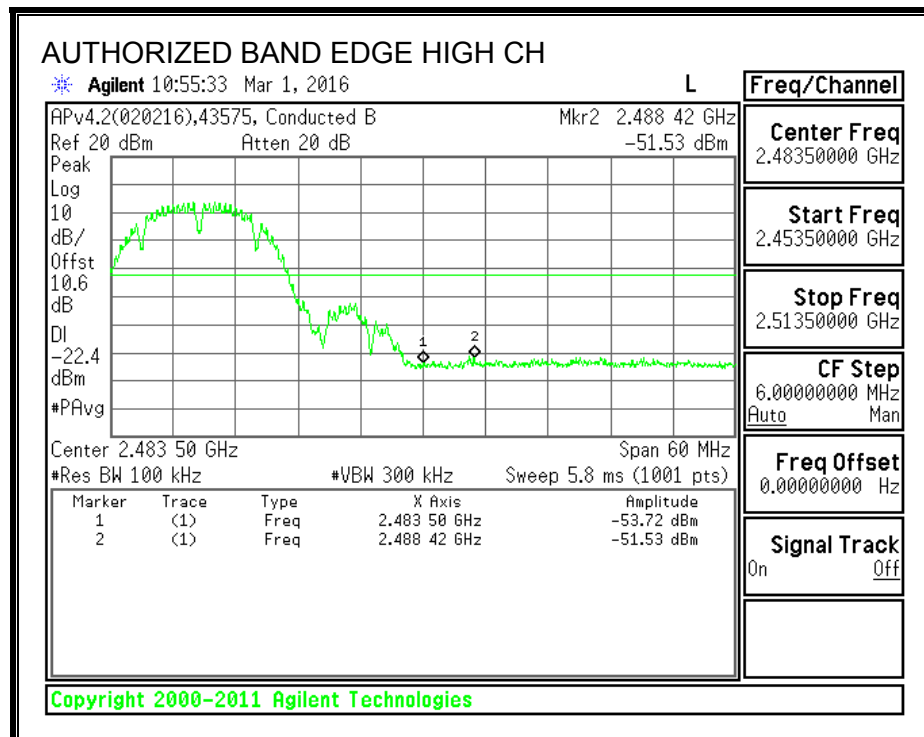
## RESULTS

### IN-BAND REFERENCE LEVEL

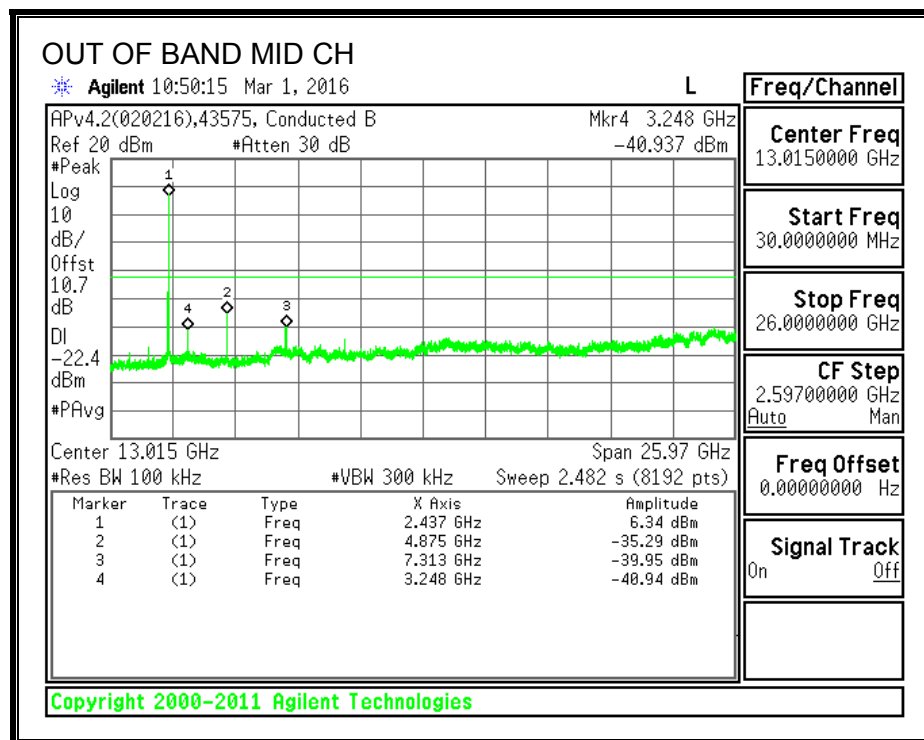
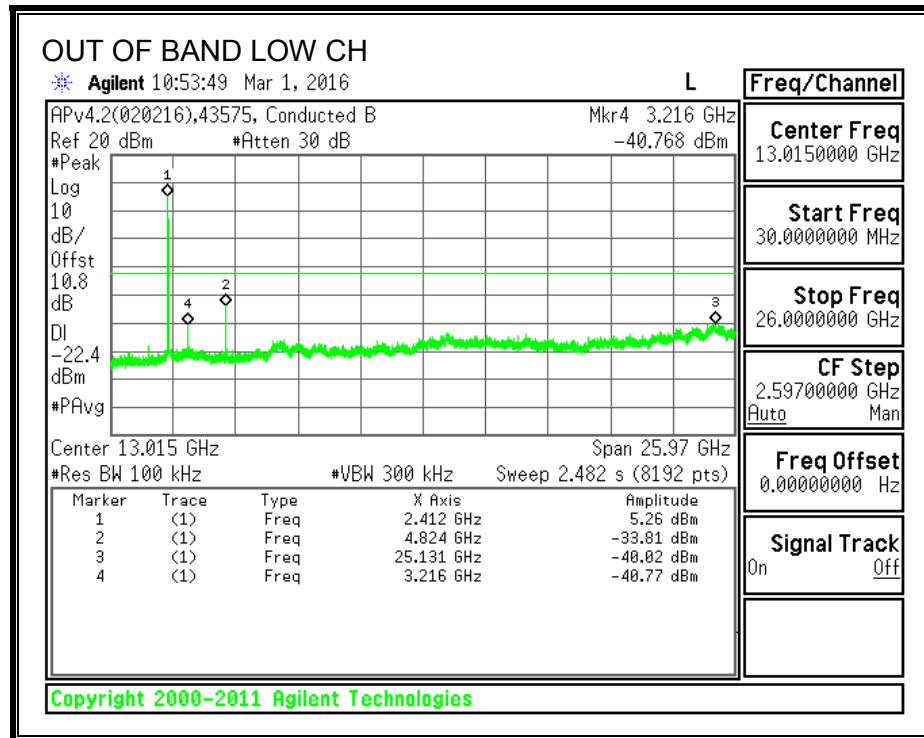




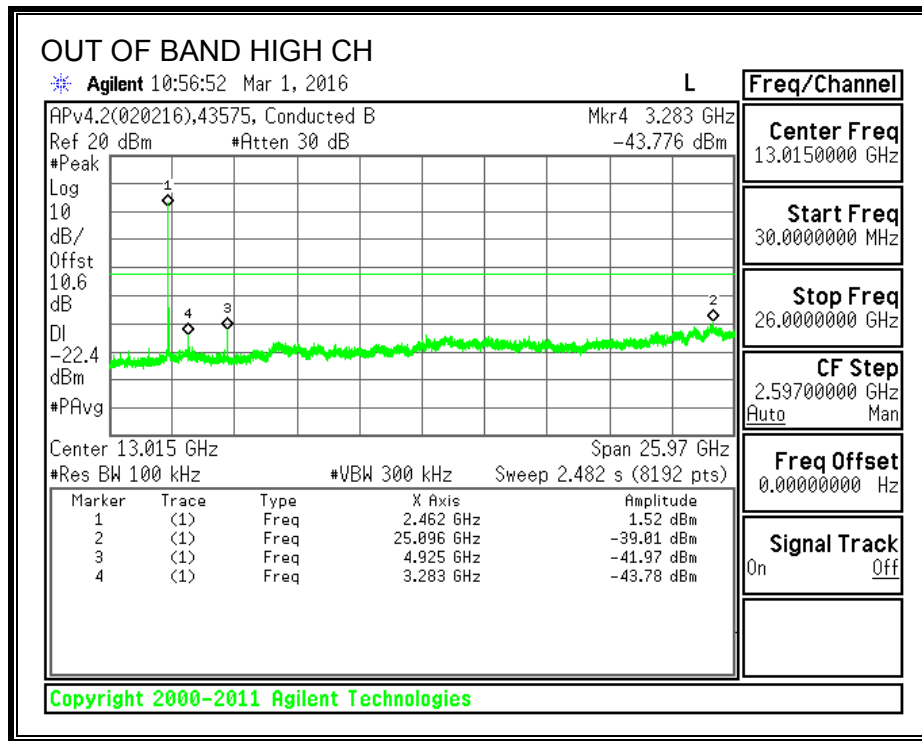
**HIGH CHANNEL BANDEDGE**



**OUT-OF-BAND EMISSIONS**







### **9.3. 802.11g MODE IN THE 2.4 GHz BAND**

#### **9.3.1. 6 dB BANDWIDTH**

##### **LIMITS**

FCC §15.247 (a) (2)

IC RSS-247 5.2.1

The minimum 6 dB bandwidth shall be at least 500 kHz.

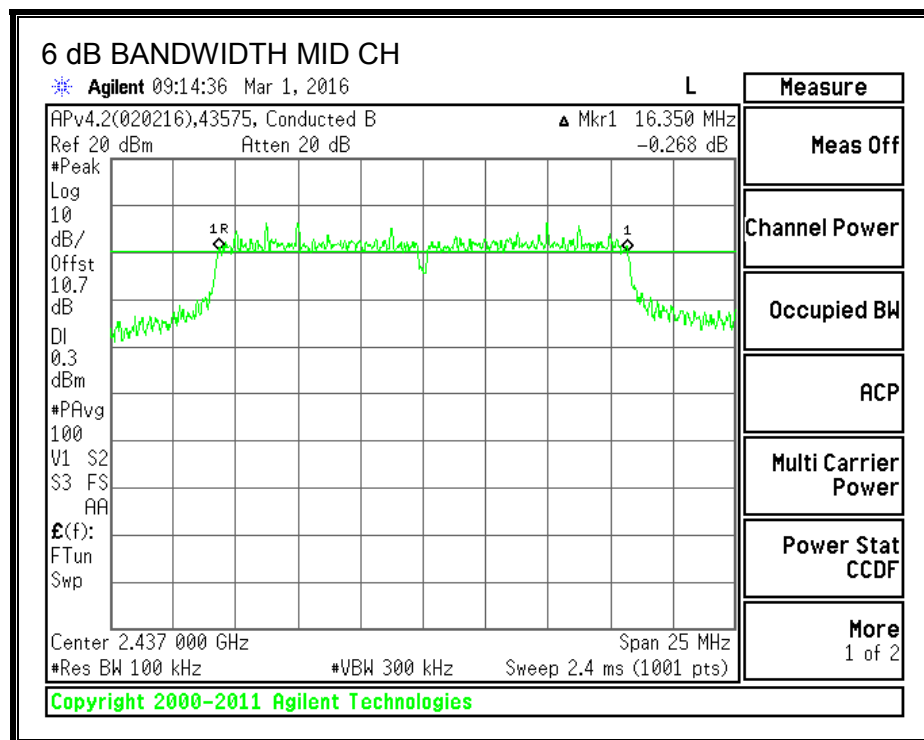
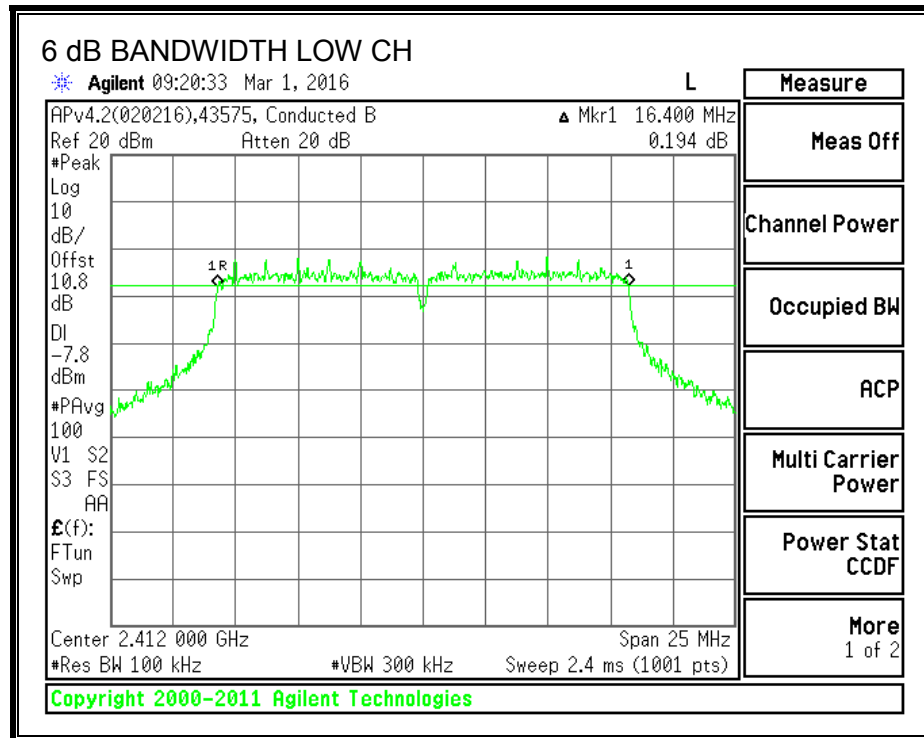
##### **TEST PROCEDURE**

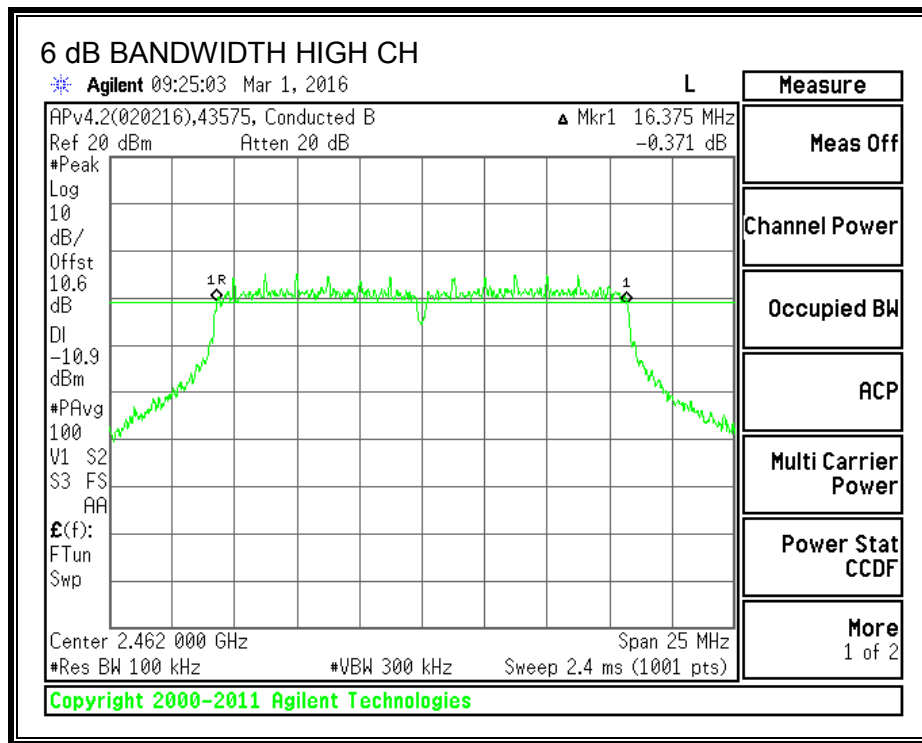
Reference to KDB 558074 D01 DTS Meas Guidance v03r05: The transmitter output is connected to a spectrum analyzer with the RBW set to 100KHz, the VBW  $\geq 3 \times$  RBW, peak detector and max hold.

##### **RESULTS**

| Channel | Frequency<br>(MHz) | 6 dB Bandwidth<br>(MHz) | Minimum Limit<br>(MHz) |
|---------|--------------------|-------------------------|------------------------|
| Low     | 2412               | 16.400                  | 0.5                    |
| Mid     | 2437               | 16.350                  | 0.5                    |
| High    | 2462               | 16.375                  | 0.5                    |

**6 dB BANDWIDTH**





### 9.3.1. 99% BANDWIDTH

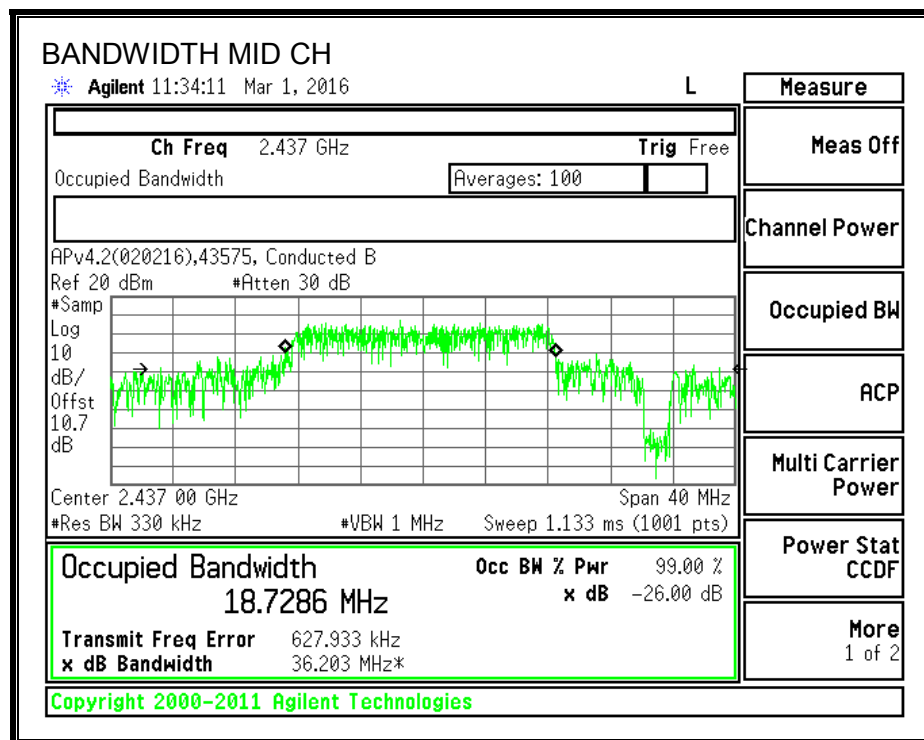
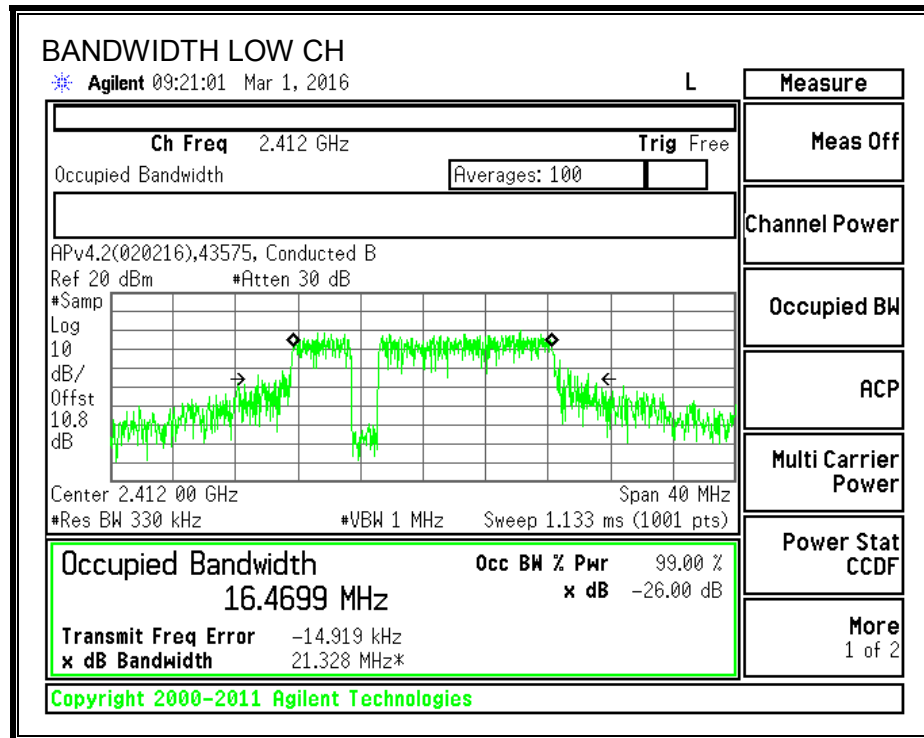
#### LIMITS

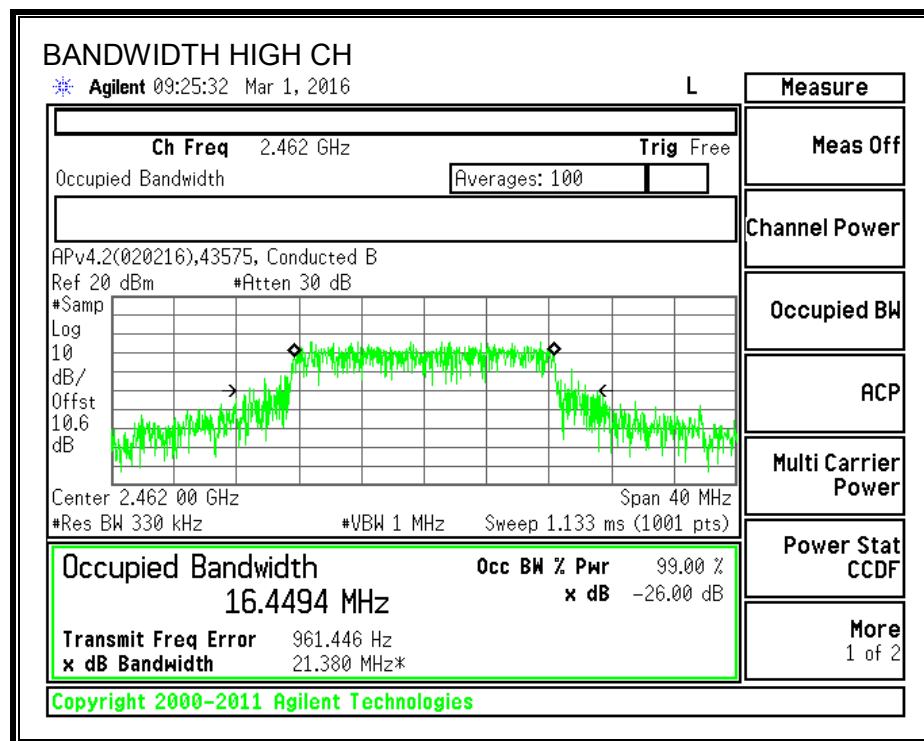
None; for reporting purposes only.

#### RESULTS

| Channel | Frequency<br>(MHz) | 99% Bandwidth<br>(MHz) |
|---------|--------------------|------------------------|
| Low     | 2412               | 16.4699                |
| Mid     | 2437               | 18.7286                |
| High    | 2462               | 16.4494                |

**99% BANDWIDTH**





### **9.3.2. OUTPUT POWER**

#### **LIMITS**

FCC §15.247

IC RSS-247 5.4.4

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power of the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### **DIRECTIONAL ANTENNA GAIN**

There is only one transmitter output, therefore the directional gain is equal to the antenna gain.

#### **RESULTS**



**Limits**

| Channel | Frequency<br>(MHz) | Directional<br>Gain<br>(dBi) | FCC<br>Power<br>Limit<br>(dBm) | IC<br>Power<br>Limit<br>(dBm) | IC<br>EIRP<br>Limit<br>(dBm) | Max<br>Power<br>(dBm) |
|---------|--------------------|------------------------------|--------------------------------|-------------------------------|------------------------------|-----------------------|
| Low     | 2412               | -4.00                        | 30.00                          | 30                            | 36                           | 30.00                 |
| 2       | 2417               | -4.00                        | 30.00                          | 30                            | 36                           | 30.00                 |
| 3       | 2422               | -4.00                        | 30.00                          | 30                            | 36                           | 30.00                 |
| Mid     | 2437               | -4.00                        | 30.00                          | 30                            | 36                           | 30.00                 |
| 8       | 2447               | -4.00                        | 30.00                          | 30                            | 36                           | 30.00                 |
| 9       | 2452               | -4.00                        | 30.00                          | 30                            | 36                           | 30.00                 |
| 10      | 2457               | -4.00                        | 30.00                          | 30                            | 36                           | 30.00                 |
| High    | 2462               | -4.00                        | 30.00                          | 30                            | 36                           | 30.00                 |

**Results**

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>Power<br>(dBm) | Total<br>Corr'd<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | Margin<br>(dB) |
|---------|--------------------|-----------------------------------|-----------------------------------|-------------------------|----------------|
| Low     | 2412               | 13.40                             | 13.40                             | 30.00                   | -16.60         |
| 2       | 2417               | 16.42                             | 16.42                             | 30.00                   | -13.58         |
| 3       | 2422               | 16.78                             | 16.78                             | 30.00                   | -13.22         |
| Mid     | 2437               | 17.13                             | 17.13                             | 30.00                   | -12.87         |
| 8       | 2447               | 17.00                             | 17.00                             | 30.00                   | -13.00         |
| 9       | 2452               | 15.19                             | 15.19                             | 30.00                   | -14.81         |
| 10      | 2457               | 14.65                             | 14.65                             | 30.00                   | -15.35         |
| High    | 2462               | 11.40                             | 11.40                             | 30.00                   | -18.60         |

**Note:** the power readings above are measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

### 9.3.3. POWER SPECTRAL DENSITY

#### LIMITS

FCC §15.247

IC RSS-247 5.2.2

The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

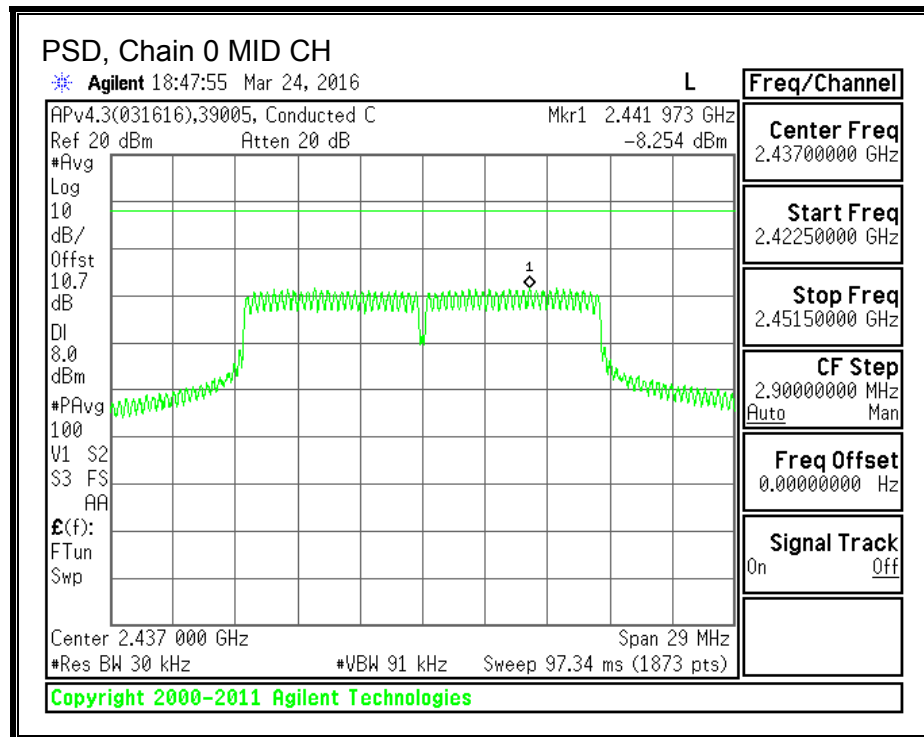
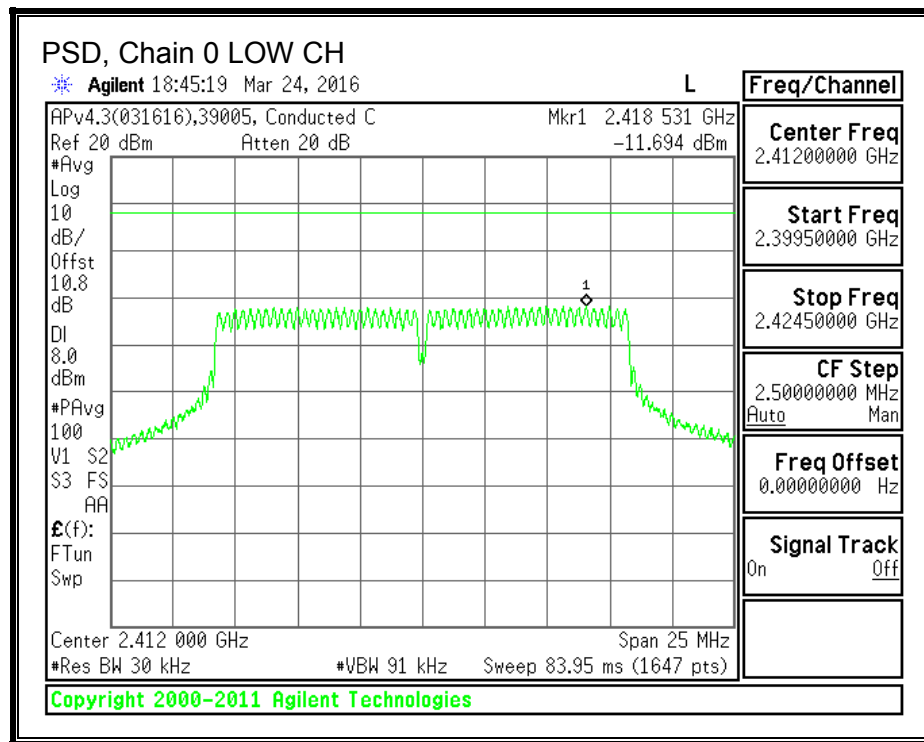
#### RESULTS

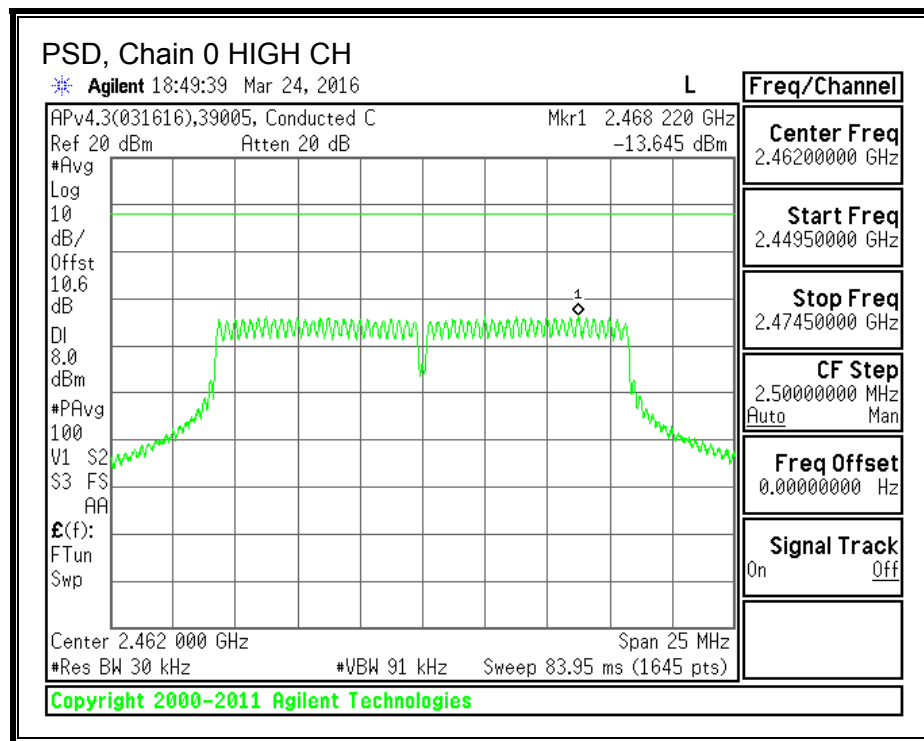
|                    |      |                                        |
|--------------------|------|----------------------------------------|
| Duty Cycle CF (dB) | 0.16 | Included in Calculations of Corr'd PSD |
|--------------------|------|----------------------------------------|

#### PSD Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>(dBm) | Total<br>Corr'd<br>PSD<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|---------|--------------------|--------------------------|---------------------------------|----------------|----------------|
| Low     | 2412               | -11.694                  | -11.53                          | 8.0            | -19.5          |
| Mid     | 2437               | -8.254                   | -8.09                           | 8.0            | -16.1          |
| High    | 2462               | -13.645                  | -13.49                          | 8.0            | -21.5          |

**PSD, Chain 0**





### 9.3.4. OUT-OF-BAND EMISSIONS

#### LIMITS

FCC §15.247 (d)

IC RSS-247 5.5

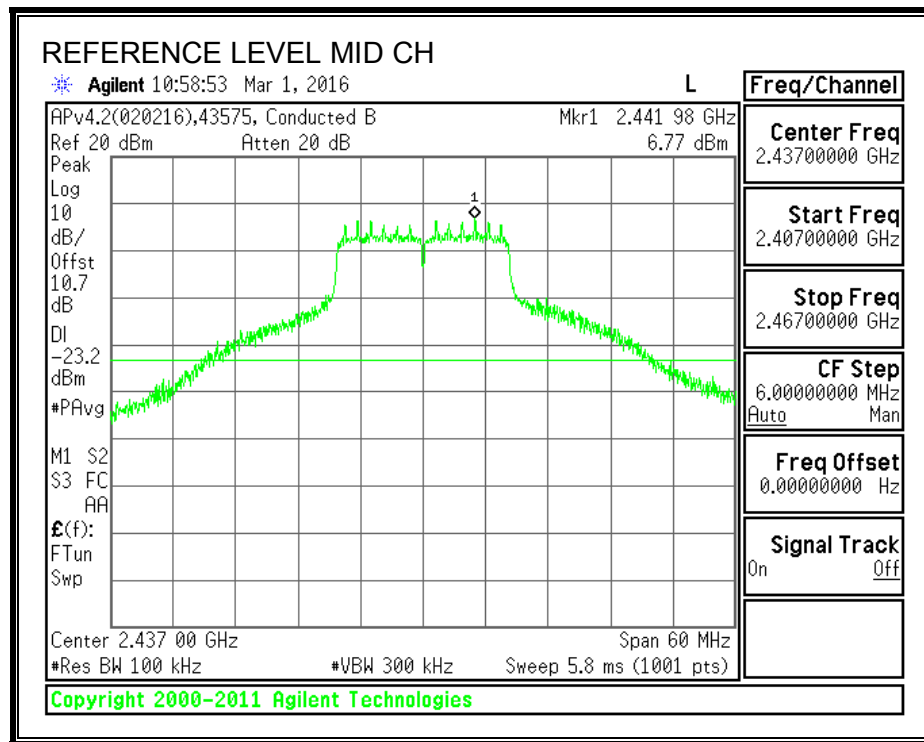
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

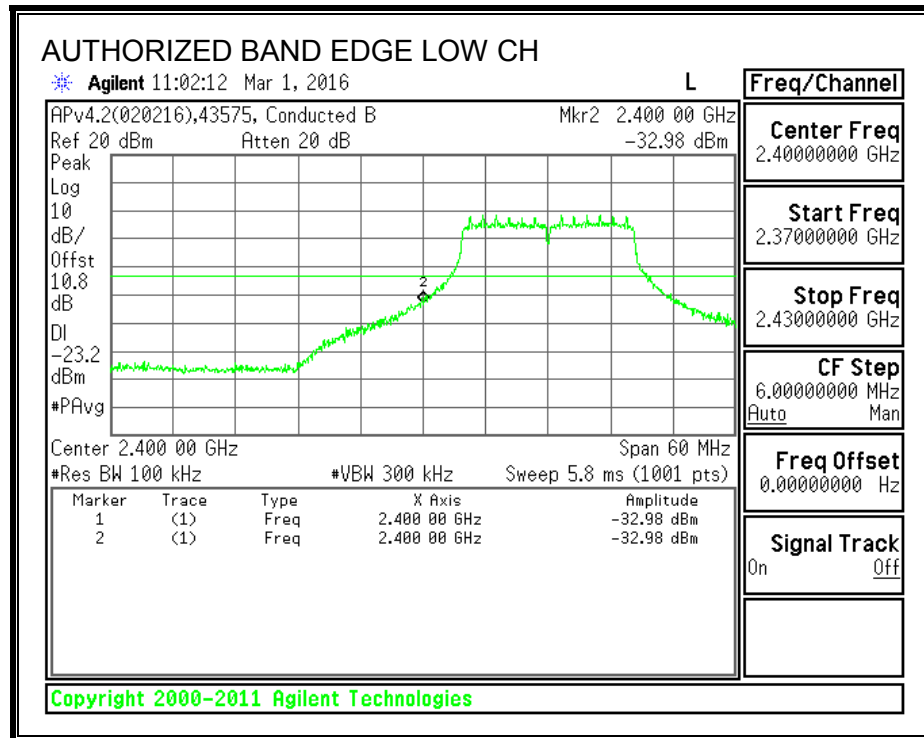
#### TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer with RBW = 100 kHz, VBW = 300 kHz, peak detector, and max hold. Measurements utilizing these settings are made of the in-band reference level, bandedge (where measurements to the general radiated limits will not be made) and out-of-band emissions.

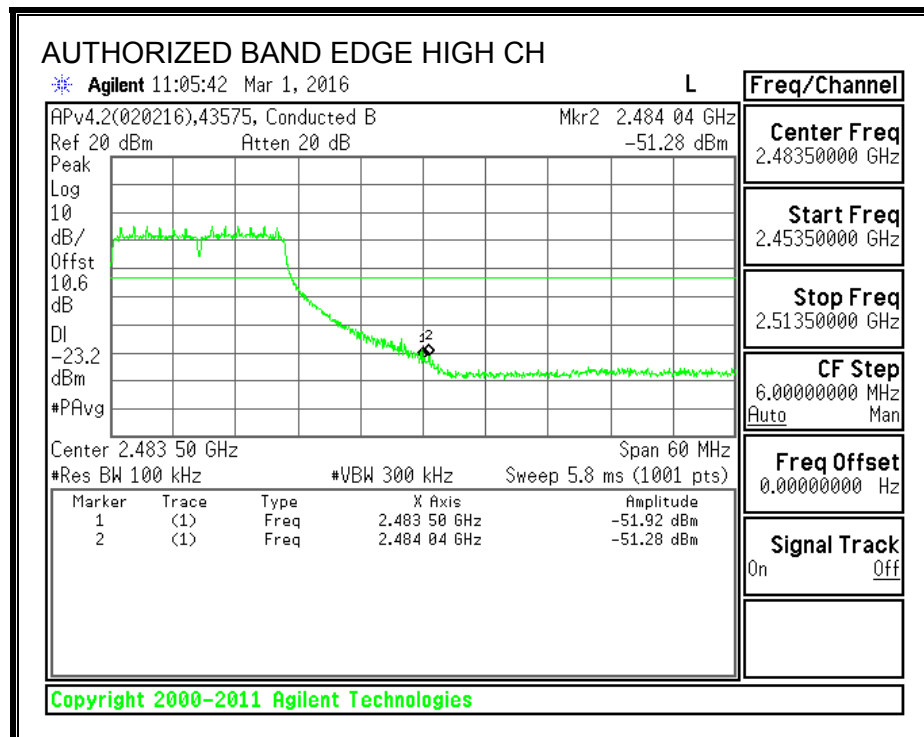
**RESULTS**

**IN-BAND REFERENCE LEVEL**

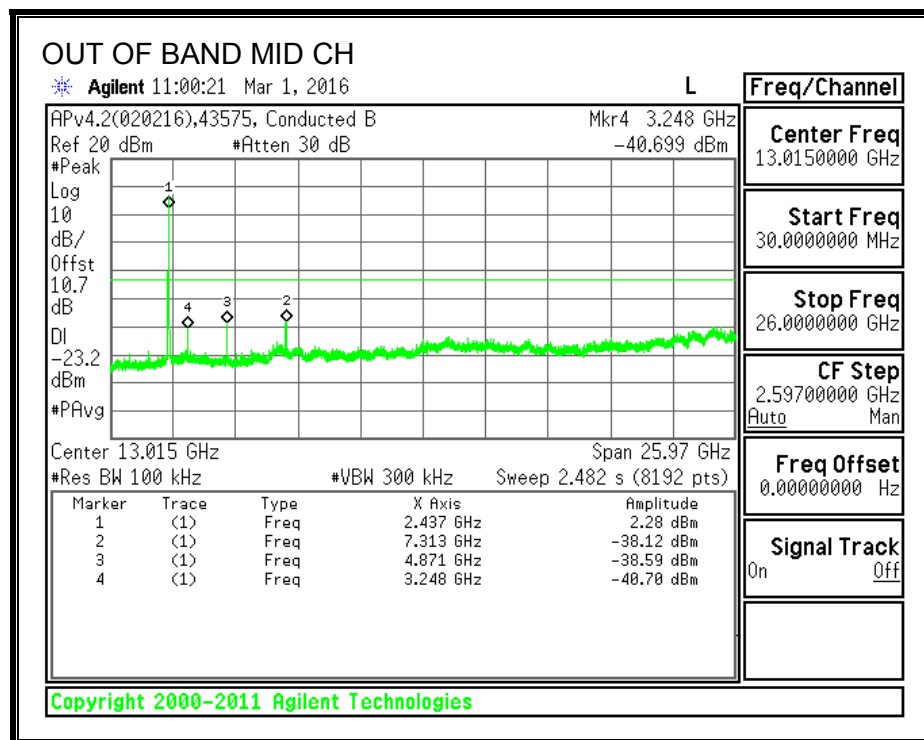
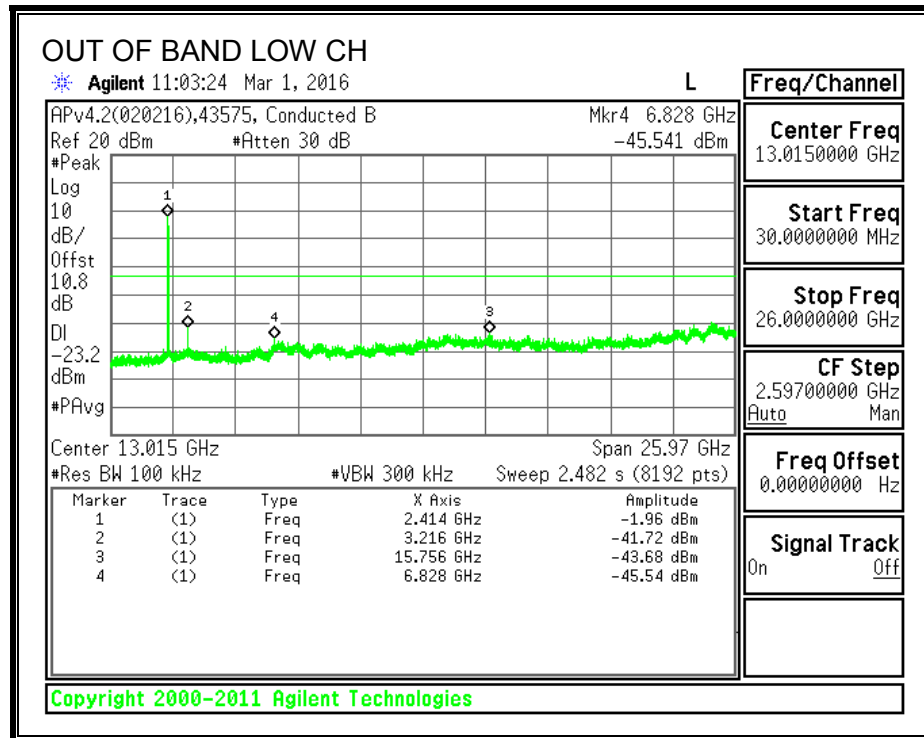




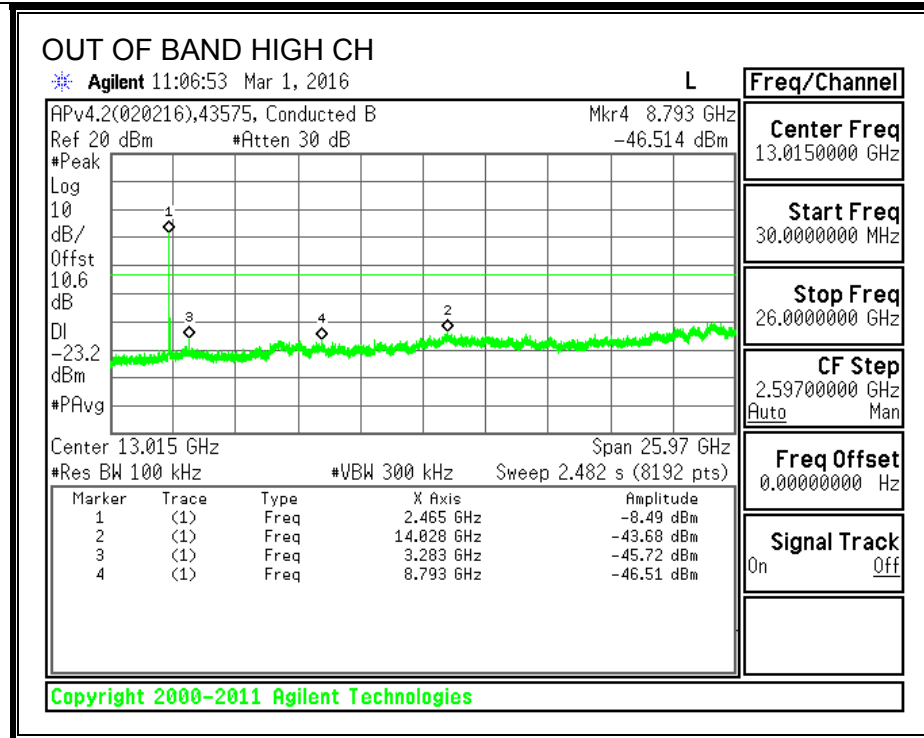
**HIGH CHANNEL BANDEDGE**



**OUT-OF-BAND EMISSIONS**







## **9.4. 802.11n HT20 MODE IN THE 2.4 GHz BAND**

### **9.4.1. 6 dB BANDWIDTH**

#### **LIMITS**

FCC §15.247 (a) (2)

IC RSS-247 5.2.1

The minimum 6 dB bandwidth shall be at least 500 kHz.

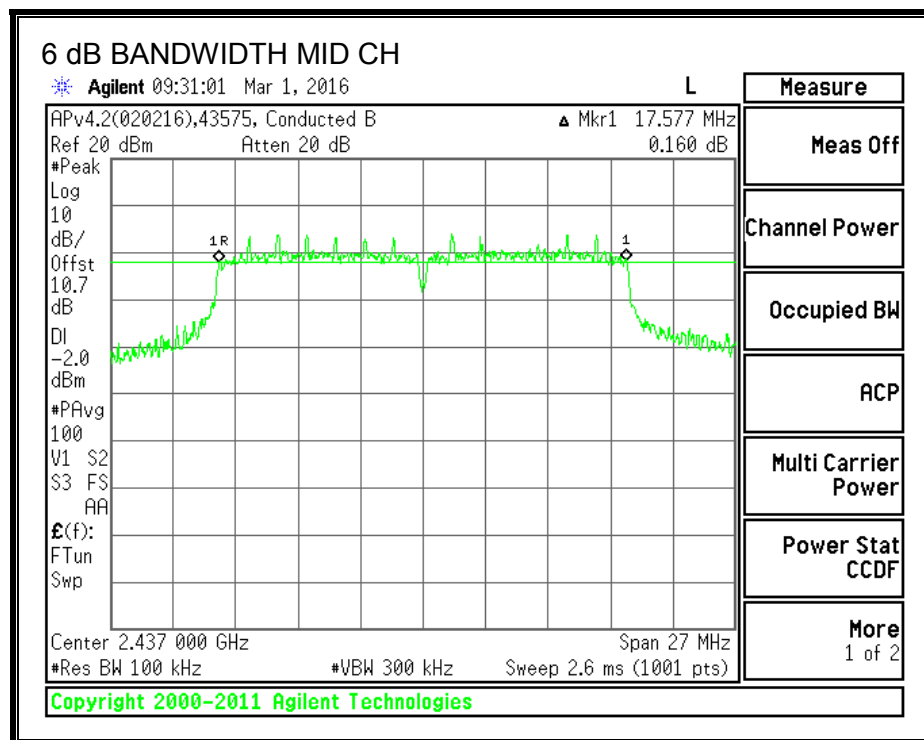
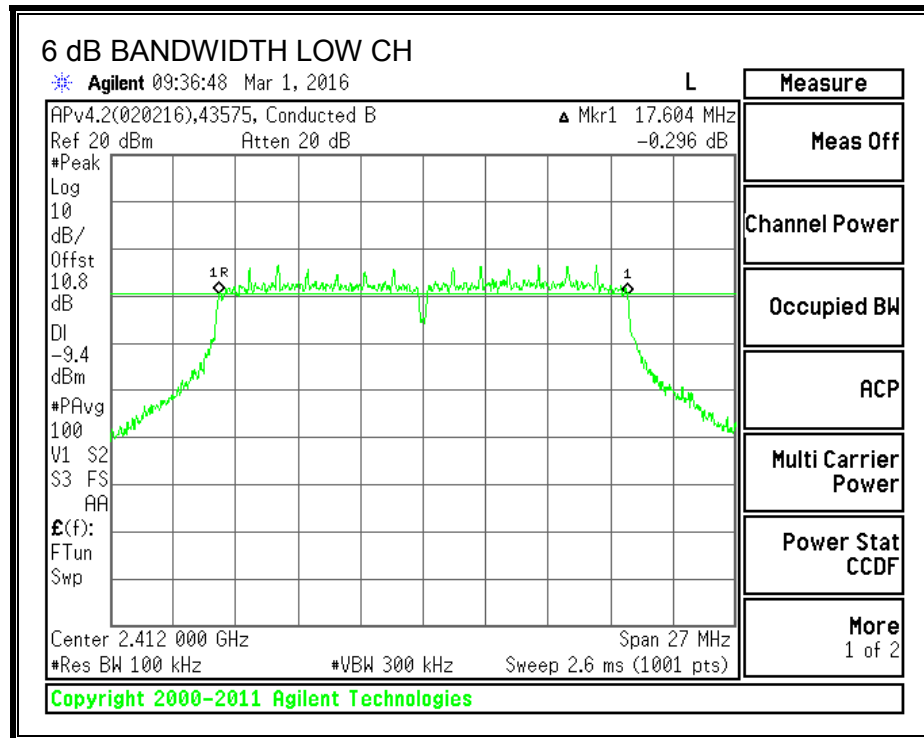
#### **TEST PROCEDURE**

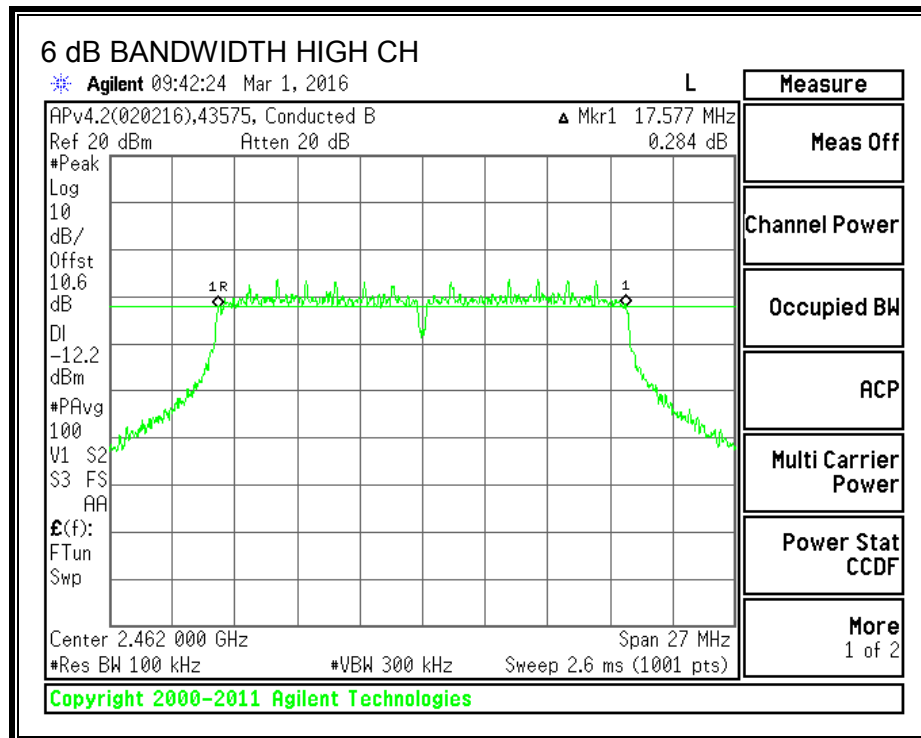
Reference to KDB 558074 D01 DTS Meas Guidance v03r05: The transmitter output is connected to a spectrum analyzer with the RBW set to 100KHz, the VBW  $\geq 3 \times$  RBW, peak detector and max hold.

#### **RESULTS**

| Channel | Frequency<br>(MHz) | 6 dB Bandwidth<br>(MHz) | Minimum Limit<br>(MHz) |
|---------|--------------------|-------------------------|------------------------|
| Low     | 2412               | 17.604                  | 0.5                    |
| Mid     | 2437               | 17.577                  | 0.5                    |
| High    | 2462               | 17.577                  | 0.5                    |

**6 dB BANDWIDTH**





#### **9.4.1. 99% BANDWIDTH**

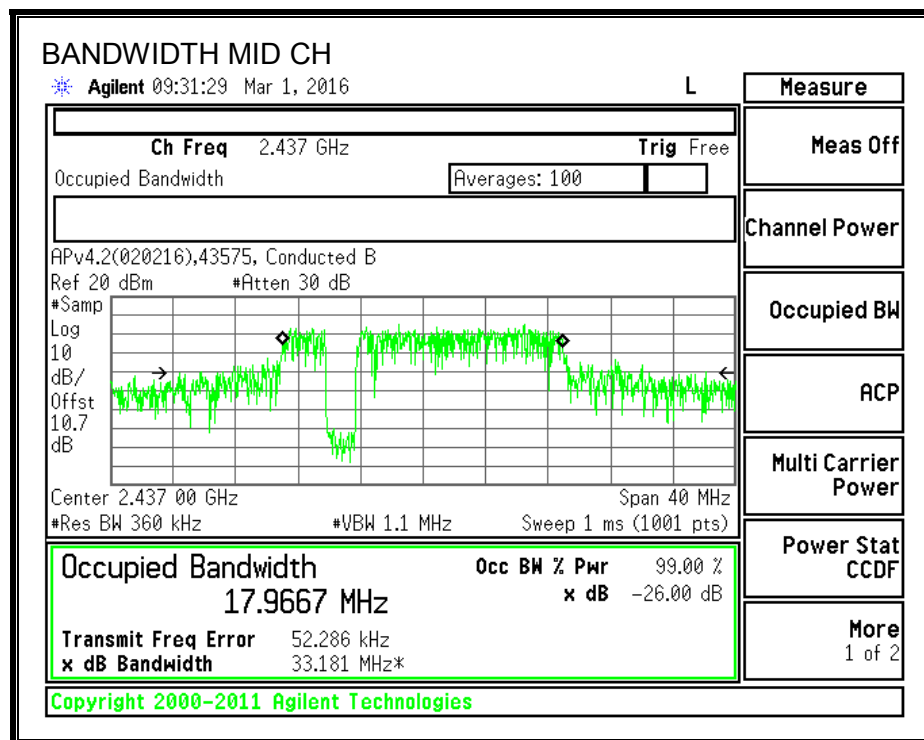
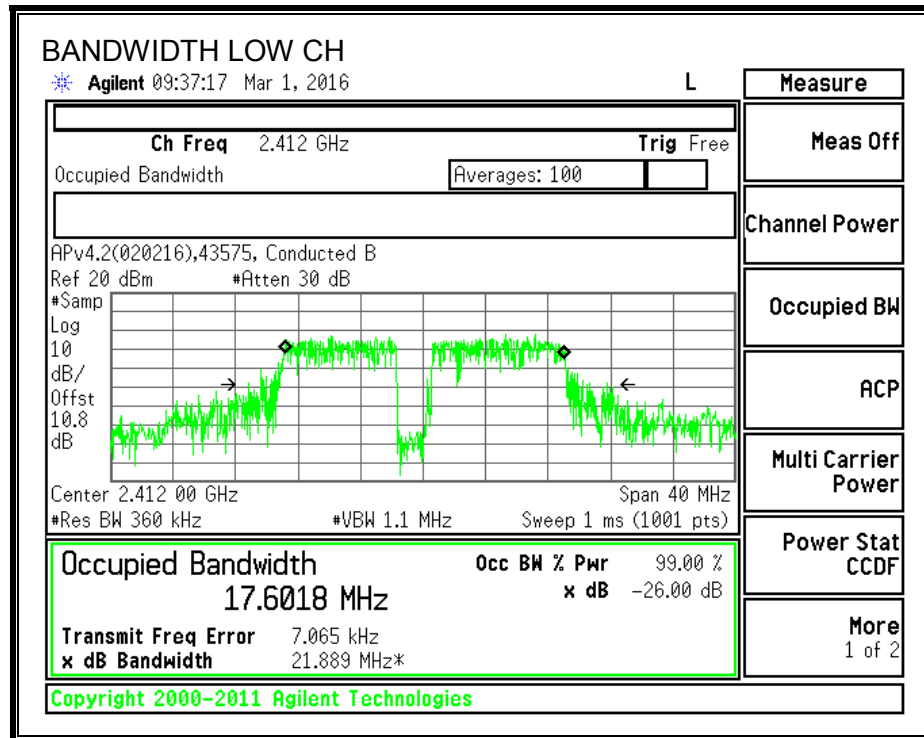
##### **LIMITS**

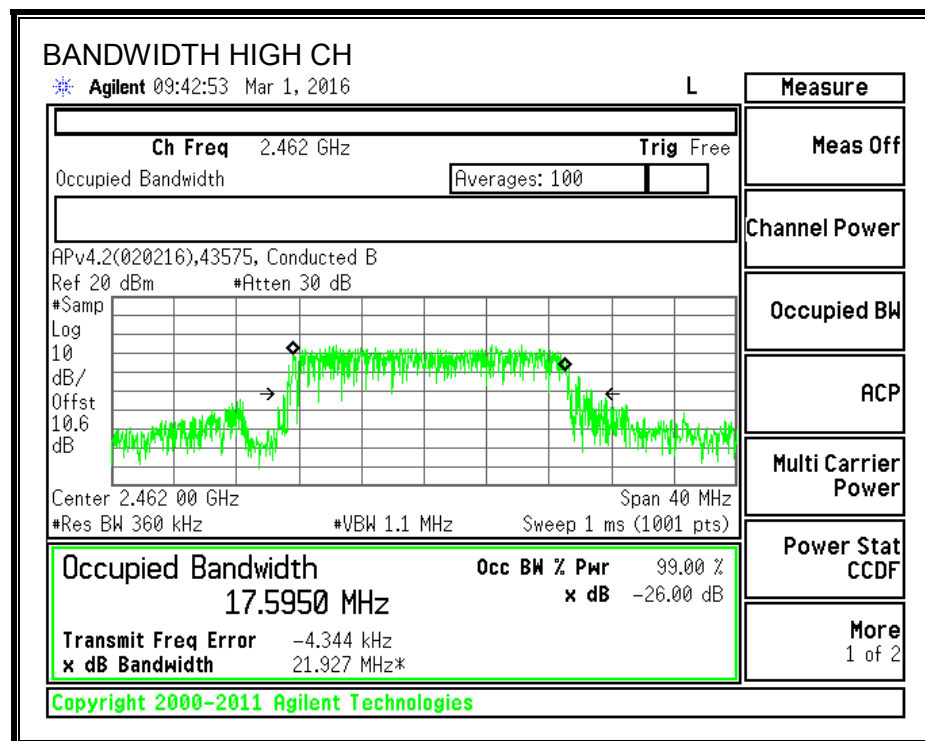
None; for reporting purposes only.

##### **RESULTS**

| Channel | Frequency<br>(MHz) | 99% Bandwidth<br>(MHz) |
|---------|--------------------|------------------------|
| Low     | 2412               | 17.6018                |
| Mid     | 2437               | 17.9667                |
| High    | 2462               | 17.5950                |

**99% BANDWIDTH**





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## **9.4.2. OUTPUT POWER**

### **LIMITS**

FCC §15.247

IC RSS-247 5.4.4

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power of the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

### **DIRECTIONAL ANTENNA GAIN**

There is only one transmitter output, therefore the directional gain is equal to the antenna gain.

### **RESULTS**



# Limits

| Channel | Frequency<br>(MHz) | Directional<br>Gain<br>(dBi) | FCC<br>Power<br>Limit<br>(dBm) | IC<br>Power<br>Limit<br>(dBm) | IC<br>EIRP<br>Limit<br>(dBm) | Max<br>Power<br>(dBm) |
|---------|--------------------|------------------------------|--------------------------------|-------------------------------|------------------------------|-----------------------|
| Low     | 2412               | -4.00                        | 30.00                          | 30                            | 36                           | 30.00                 |
| 2       | 2417               | -4.00                        | 30.00                          | 30                            | 36                           | 30.00                 |
| 3       | 2422               | -4.00                        | 30.00                          | 30                            | 36                           | 30.00                 |
| Mid     | 2437               | -4.00                        | 30.00                          | 30                            | 36                           | 30.00                 |
| 9       | 2452               | -4.00                        | 30.00                          | 30                            | 36                           | 30.00                 |
| 10      | 2457               | -4.00                        | 30.00                          | 30                            | 36                           | 30.00                 |
| High    | 2462               | -4.00                        | 30.00                          | 30                            | 36                           | 30.00                 |

# Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>Power<br>(dBm) | Total<br>Corr'd<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | Margin<br>(dB) |
|---------|--------------------|-----------------------------------|-----------------------------------|-------------------------|----------------|
| Low     | 2412               | 12.06                             | 12.06                             | 30.00                   | -17.94         |
| 2       | 2417               | 14.68                             | 14.68                             | 30.00                   | -15.32         |
| 3       | 2422               | 15.50                             | 15.50                             | 30.00                   | -14.50         |
| Mid     | 2437               | 15.17                             | 15.17                             | 30.00                   | -14.83         |
| 9       | 2452               | 15.38                             | 15.38                             | 30.00                   | -14.62         |
| 10      | 2457               | 14.09                             | 14.09                             | 30.00                   | -15.91         |
| High    | 2462               | 10.80                             | 10.80                             | 30.00                   | -19.20         |

**Note:** the power readings above are measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

### 9.4.3. POWER SPECTRAL DENSITY

#### LIMITS

FCC §15.247

IC RSS-247 5.2.2

The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

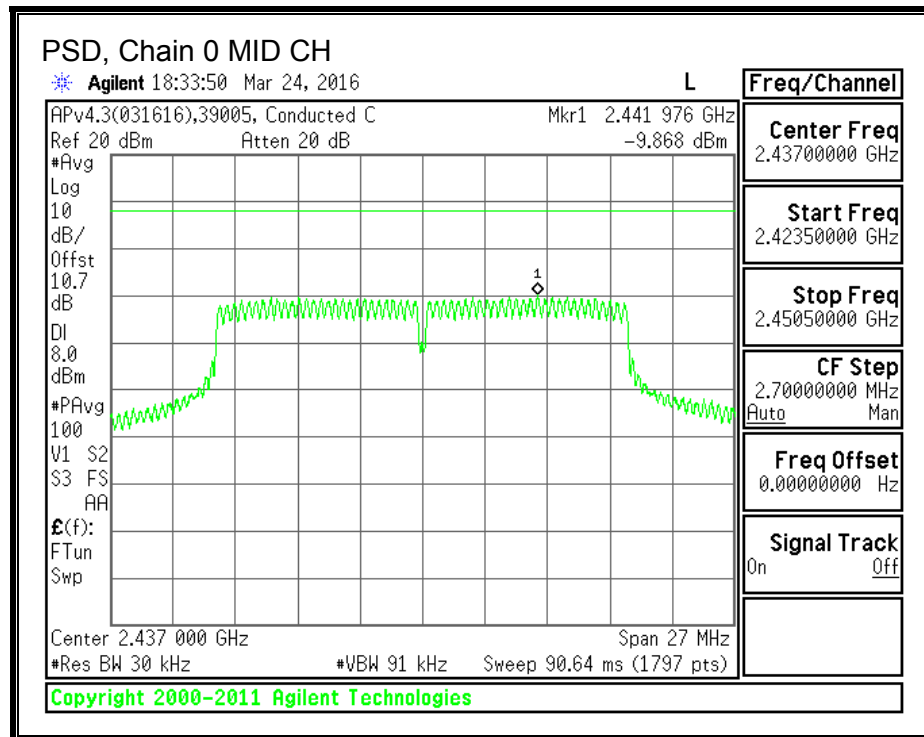
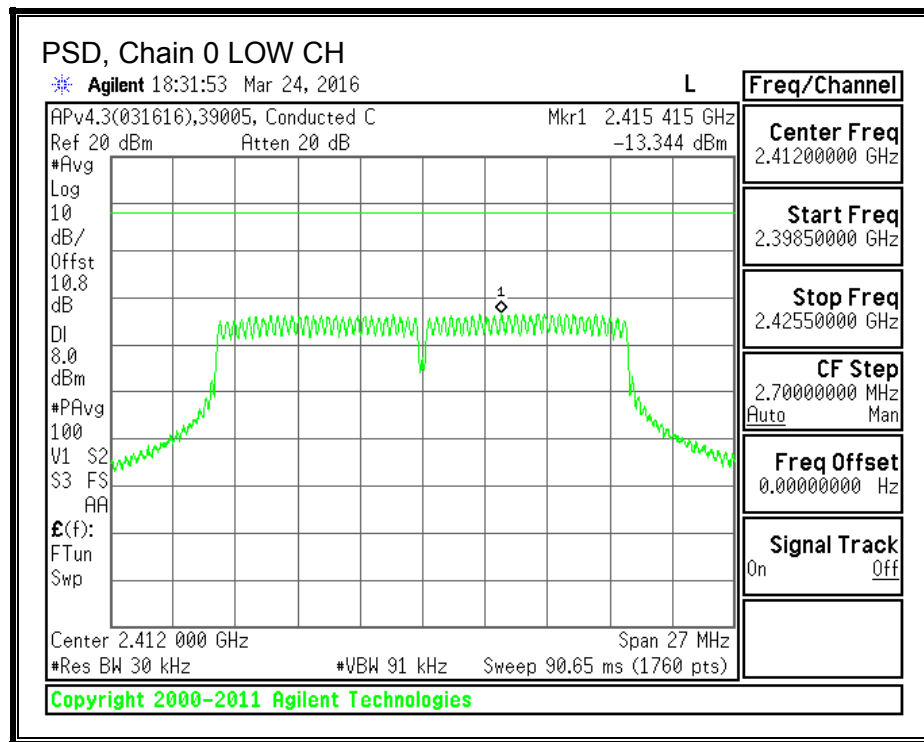
#### RESULTS

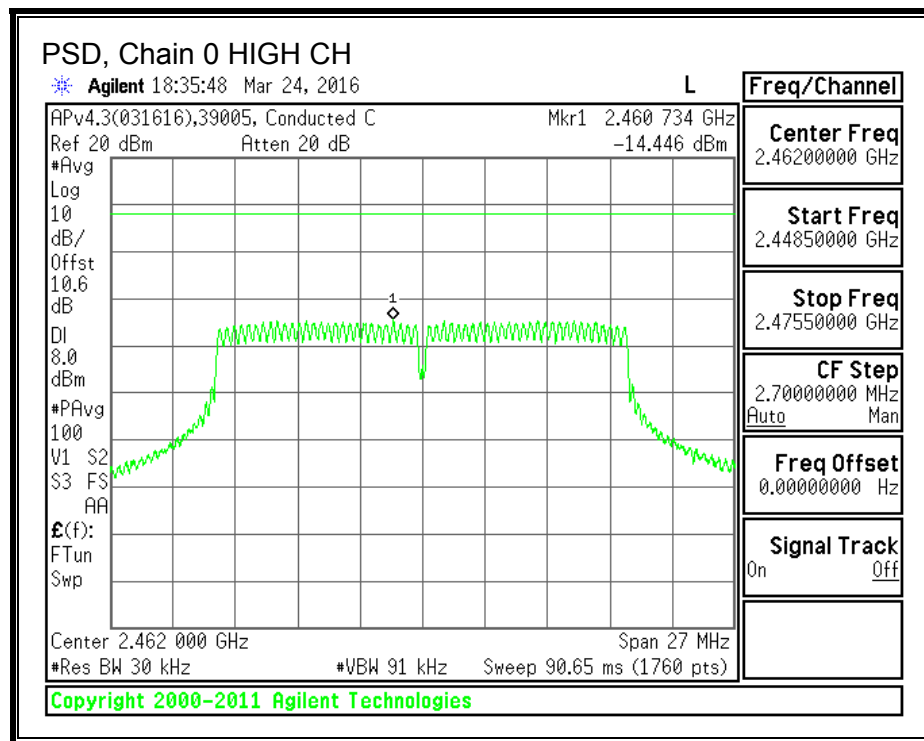
|                    |      |                                        |
|--------------------|------|----------------------------------------|
| Duty Cycle CF (dB) | 0.17 | Included in Calculations of Corr'd PSD |
|--------------------|------|----------------------------------------|

#### PSD Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>(dBm) | Total<br>Corr'd<br>PSD<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|---------|--------------------|--------------------------|---------------------------------|----------------|----------------|
| Low     | 2412               | -13.344                  | -13.17                          | 8.0            | -21.2          |
| Mid     | 2437               | -9.868                   | -9.70                           | 8.0            | -17.7          |
| High    | 2462               | -14.446                  | -14.28                          | 8.0            | -22.3          |

**PSD, Chain 0**





#### **9.4.4. OUT-OF-BAND EMISSIONS**

##### **LIMITS**

FCC §15.247 (d)

IC RSS-247 5.5

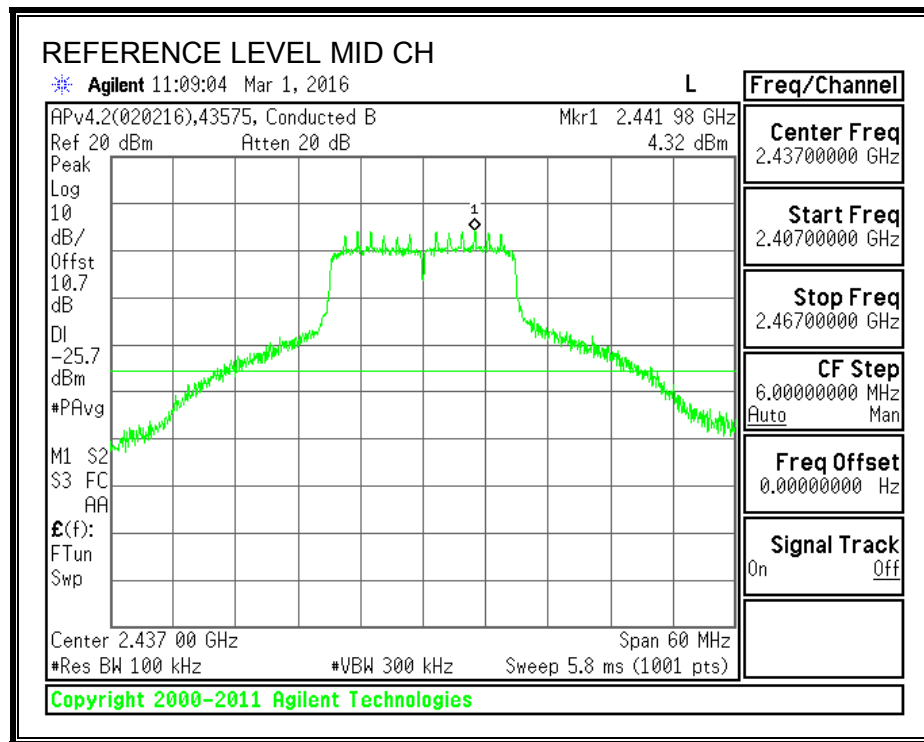
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

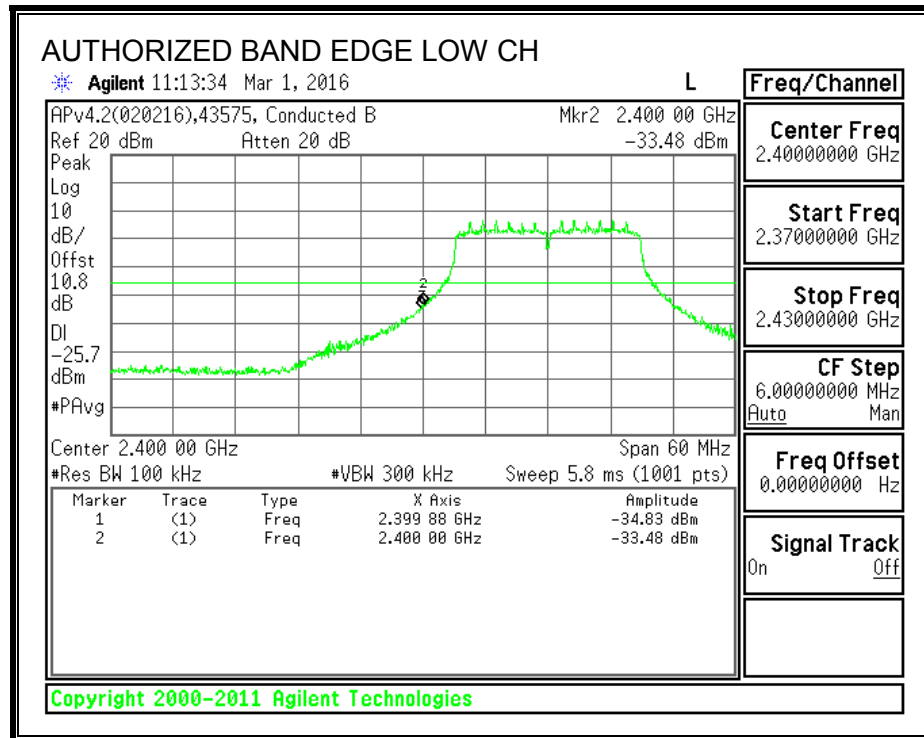
##### **TEST PROCEDURE**

The transmitter output is connected to a spectrum analyzer with RBW = 100 kHz, VBW = 300 kHz, peak detector, and max hold. Measurements utilizing these settings are made of the in-band reference level, bandedge (where measurements to the general radiated limits will not be made) and out-of-band emissions.

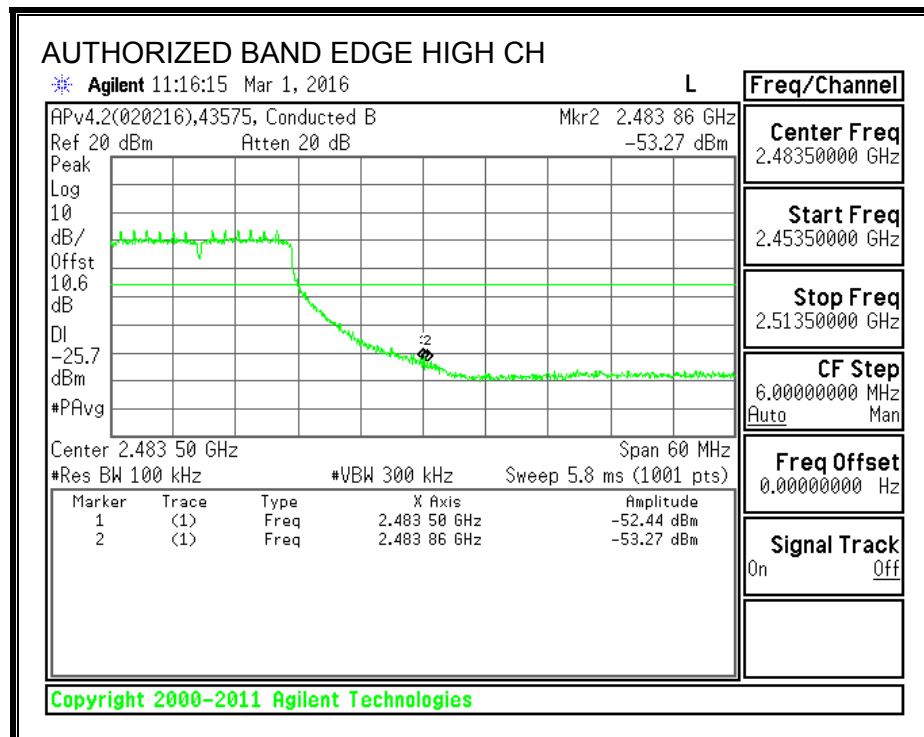
**RESULTS**

**IN-BAND REFERENCE LEVEL**

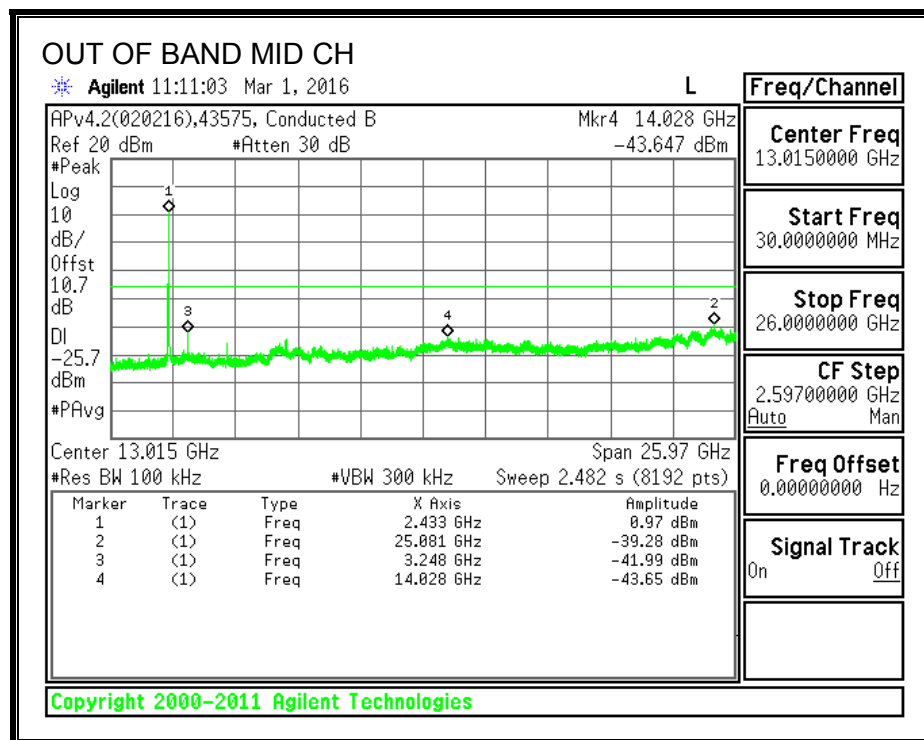
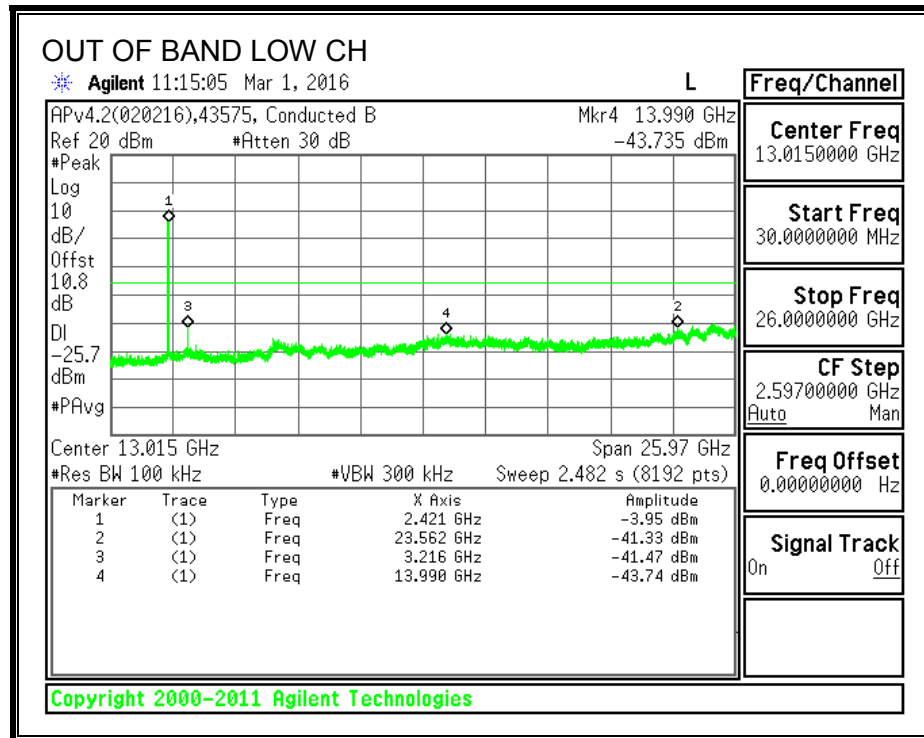




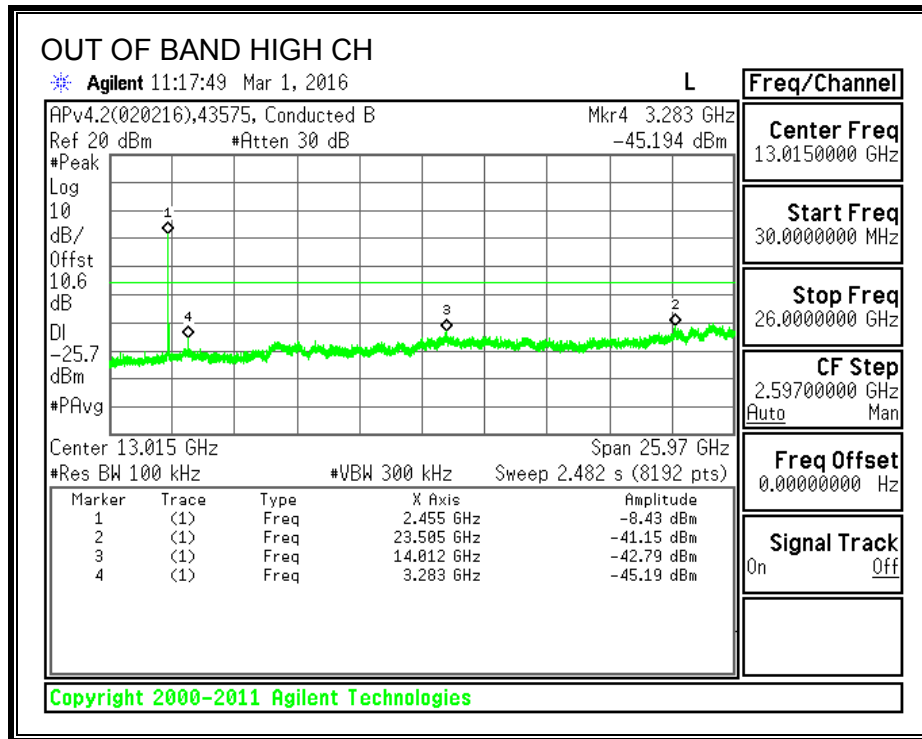
**HIGH CHANNEL BANDEDGE**



**OUT-OF-BAND EMISSIONS**







## **9.5. 802.11n HT40 MODE IN THE 2.4 GHz BAND**

### **9.5.1. 6 dB BANDWIDTH**

#### **LIMITS**

FCC §15.247 (a) (2)

IC RSS-247 5.2.1

The minimum 6 dB bandwidth shall be at least 500 kHz.

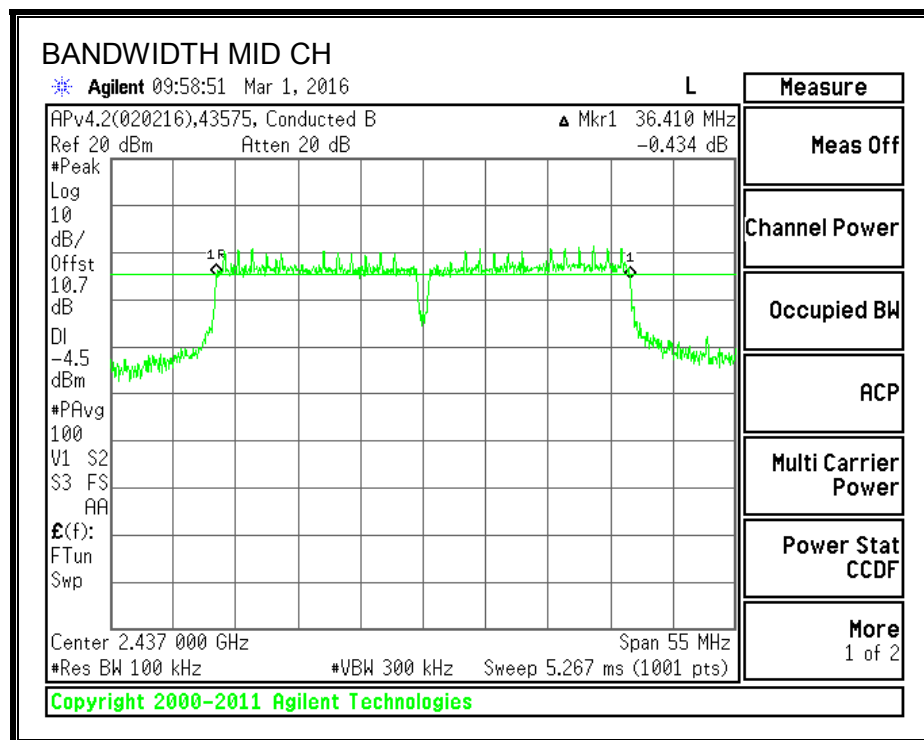
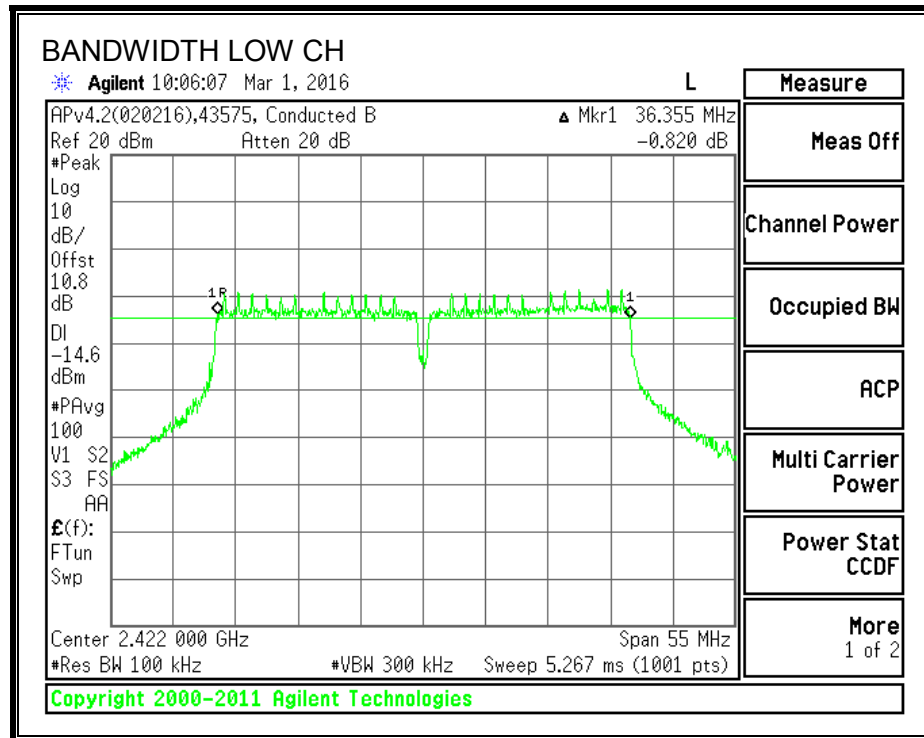
#### **TEST PROCEDURE**

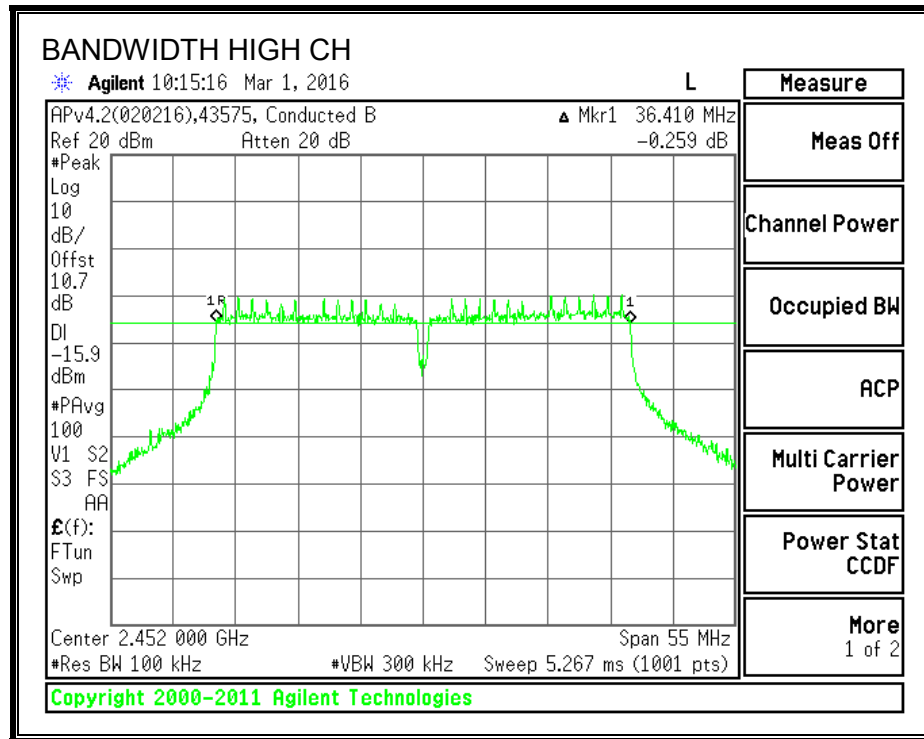
Reference to KDB 558074 D01 DTS Meas Guidance v03r05: The transmitter output is connected to a spectrum analyzer with the RBW set to 100KHz, the VBW  $\geq 3 \times$  RBW, peak detector and max hold.

#### **RESULTS**

| Channel | Frequency<br>(MHz) | 6 dB Bandwidth<br>(MHz) | Minimum Limit<br>(MHz) |
|---------|--------------------|-------------------------|------------------------|
| Low     | 2422               | 36.355                  | 0.5                    |
| Mid     | 2437               | 36.410                  | 0.5                    |
| High    | 2452               | 36.410                  | 0.5                    |

**6 dB BANDWIDTH**





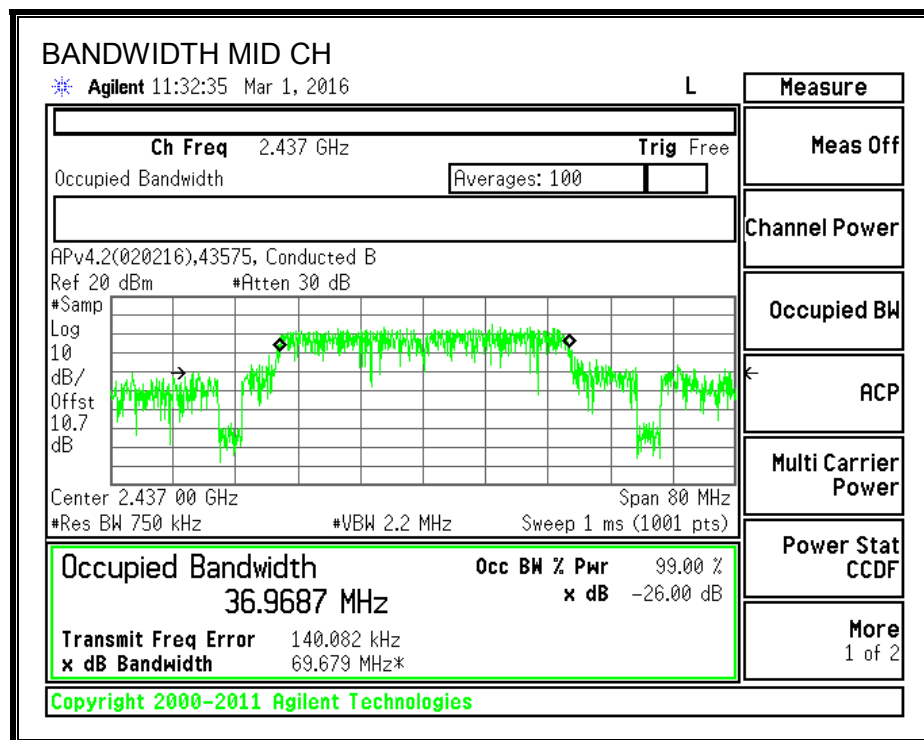
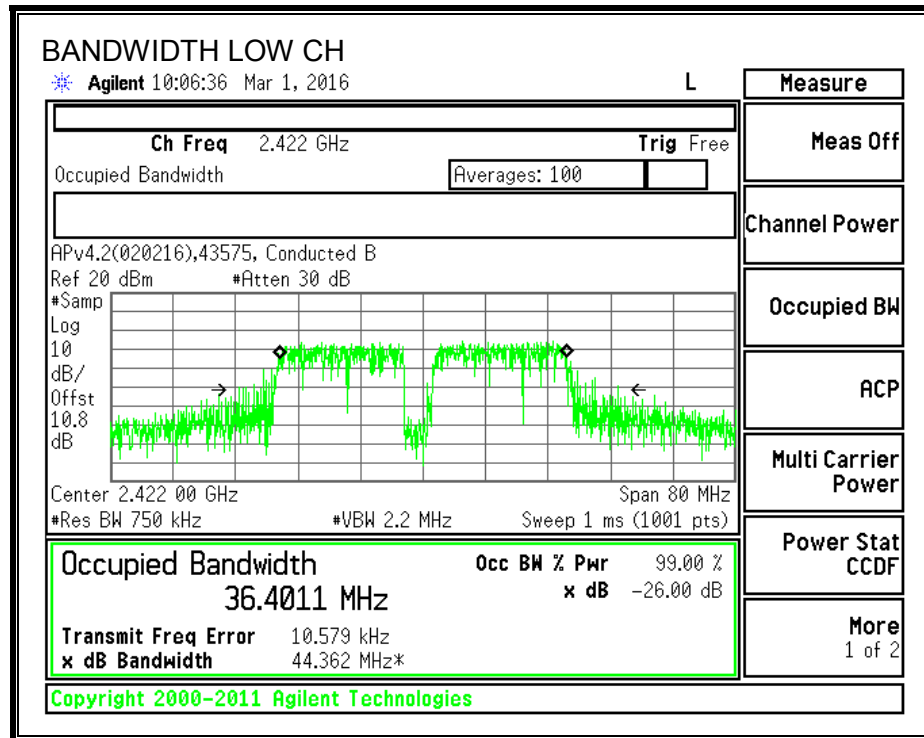
### 9.5.2. 99% BANDWIDTH

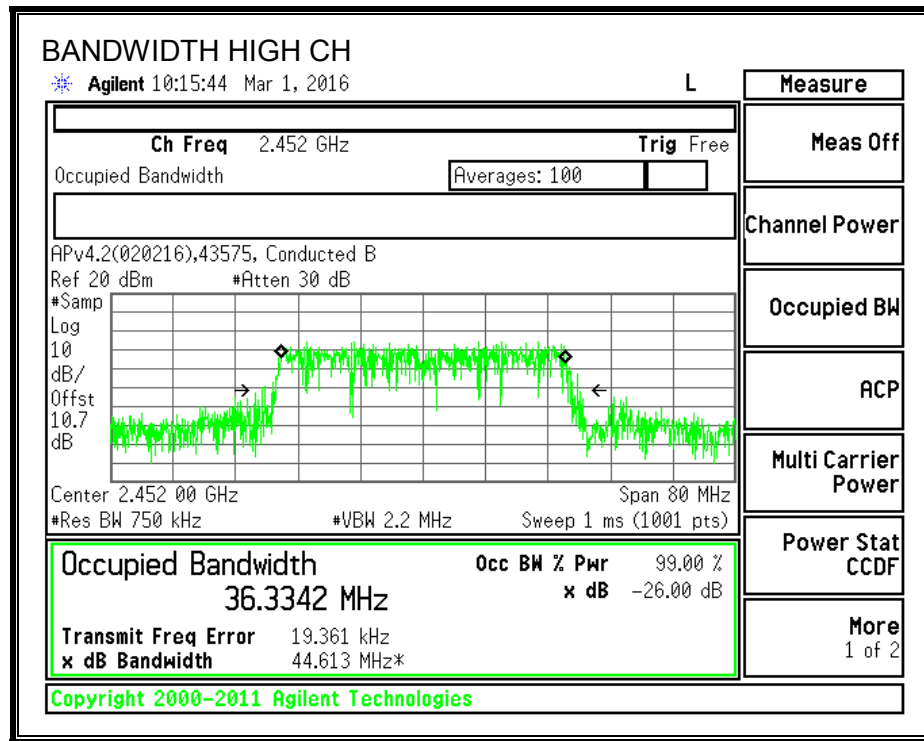
#### LIMITS

None; for reporting purposes only.

#### RESULTS

| Channel | Frequency<br>(MHz) | 99% Bandwidth<br>(MHz) |
|---------|--------------------|------------------------|
| Low     | 2422               | 36.4011                |
| Mid     | 2437               | 36.9687                |
| High    | 2452               | 36.3342                |





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### **9.5.3. OUTPUT POWER**

#### **LIMITS**

FCC §15.247

IC RSS-247 5.4.4

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power of the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### **DIRECTIONAL ANTENNA GAIN**

There is only one transmitter output, therefore the directional gain is equal to the antenna gain.

#### **RESULTS**



**Limits**

| Channel | Frequency<br>(MHz) | Directional<br>Gain<br>(dBi) | FCC<br>Power<br>Limit<br>(dBm) | IC<br>Power<br>Limit<br>(dBm) | IC<br>EIRP<br>Limit<br>(dBm) | Max<br>Power<br>(dBm) |
|---------|--------------------|------------------------------|--------------------------------|-------------------------------|------------------------------|-----------------------|
| Low     | 2422               | -4.00                        | 30.00                          | 30                            | 36                           | 30.00                 |
| 3       | 2427               | -4.00                        | 30.00                          | 30                            | 36                           | 30.00                 |
| 4       | 2432               | -4.00                        | 30.00                          | 30                            | 36                           | 30.00                 |
| Mid     | 2437               | -4.00                        | 30.00                          | 30                            | 36                           | 30.00                 |
| 7       | 2442               | -4.00                        | 30.00                          | 30                            | 36                           | 30.00                 |
| 8       | 2447               | -4.00                        | 30.00                          | 30                            | 36                           | 30.00                 |
| High    | 2452               | -4.00                        | 30.00                          | 30                            | 36                           | 30.00                 |

**Results**

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>Power<br>(dBm) | Total<br>Corr'd<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | Margin<br>(dB) |
|---------|--------------------|-----------------------------------|-----------------------------------|-------------------------|----------------|
| Low     | 2422               | 9.88                              | 9.88                              | 30.00                   | -20.12         |
| 3       | 2427               | 10.40                             | 10.40                             | 30.00                   | -19.60         |
| 4       | 2432               | 12.05                             | 12.05                             | 30.00                   | -17.95         |
| Mid     | 2437               | 12.17                             | 12.17                             | 30.00                   | -17.83         |
| 7       | 2442               | 10.62                             | 10.62                             | 30.00                   | -19.38         |
| 8       | 2447               | 9.50                              | 9.50                              | 30.00                   | -20.50         |
| High    | 2452               | 9.66                              | 9.66                              | 30.00                   | -20.34         |

**Note:** the power readings above are measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

## 9.5.4. POWER SPECTRAL DENSITY

### LIMITS

FCC §15.247

IC RSS-247 5.2.2

The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

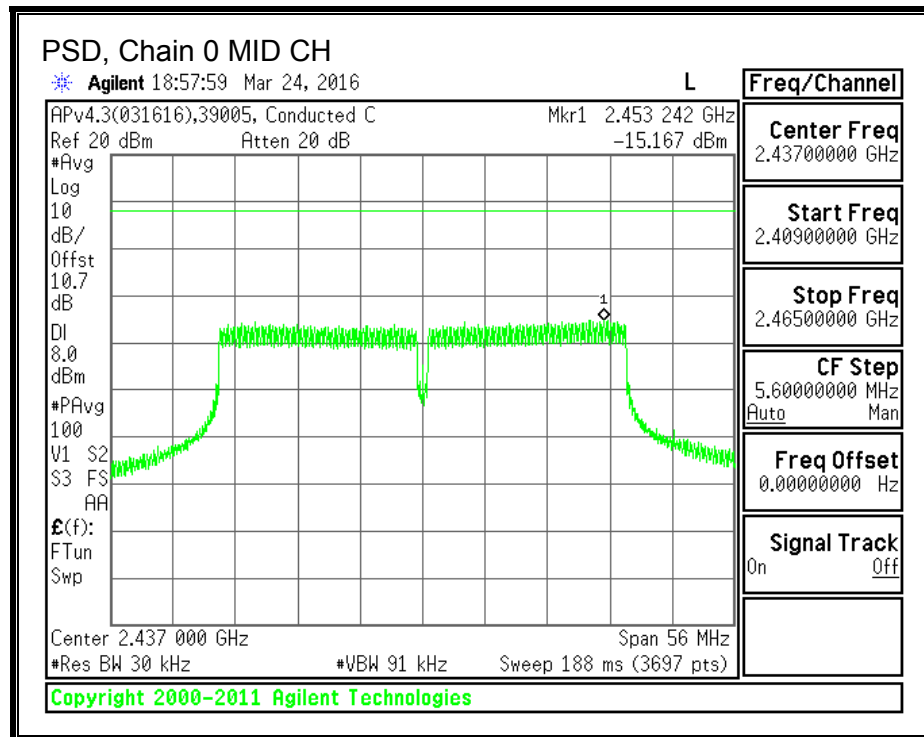
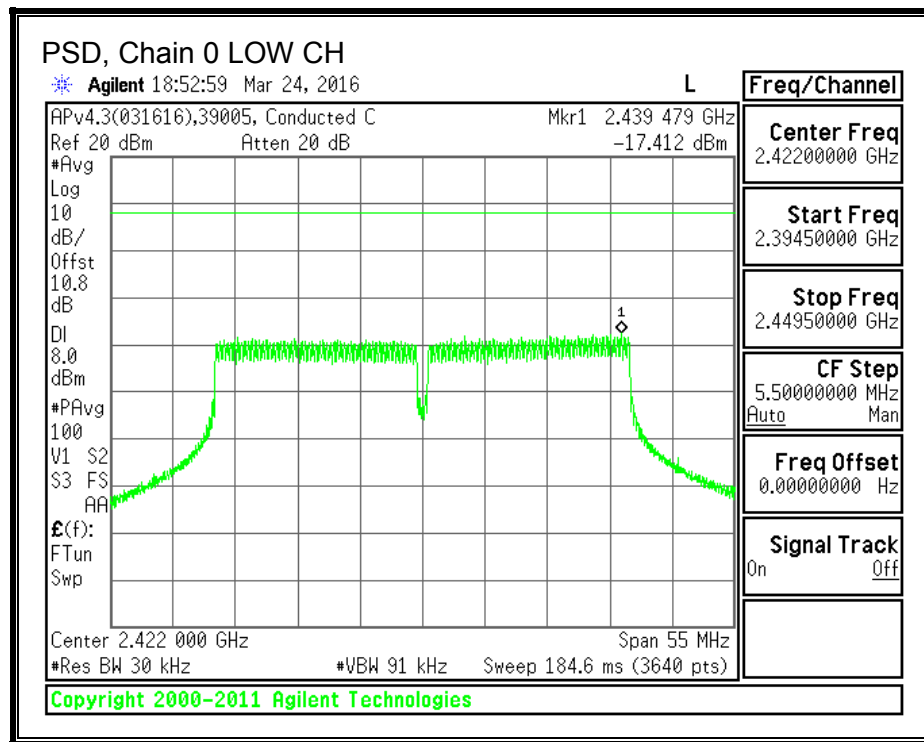
### RESULTS

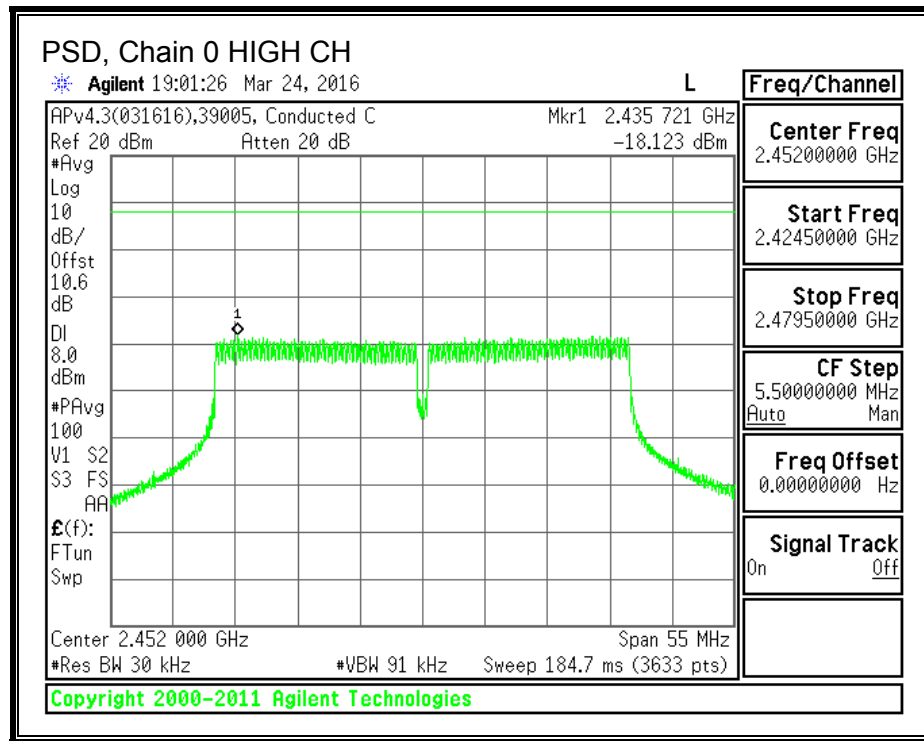
|                    |      |                                        |
|--------------------|------|----------------------------------------|
| Duty Cycle CF (dB) | 0.26 | Included in Calculations of Corr'd PSD |
|--------------------|------|----------------------------------------|

#### PSD Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>(dBm) | Total<br>Corr'd<br>PSD<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|---------|--------------------|--------------------------|---------------------------------|----------------|----------------|
| Low     | 2422               | -17.412                  | -17.15                          | 8.0            | -25.2          |
| Mid     | 2437               | -15.167                  | -14.91                          | 8.0            | -22.9          |
| High    | 2452               | -18.123                  | -17.86                          | 8.0            | -25.9          |

**PSD, Chain 0**





### **9.5.5. OUT-OF-BAND EMISSIONS**

#### **LIMITS**

FCC §15.247 (d)

IC RSS-247 5.5

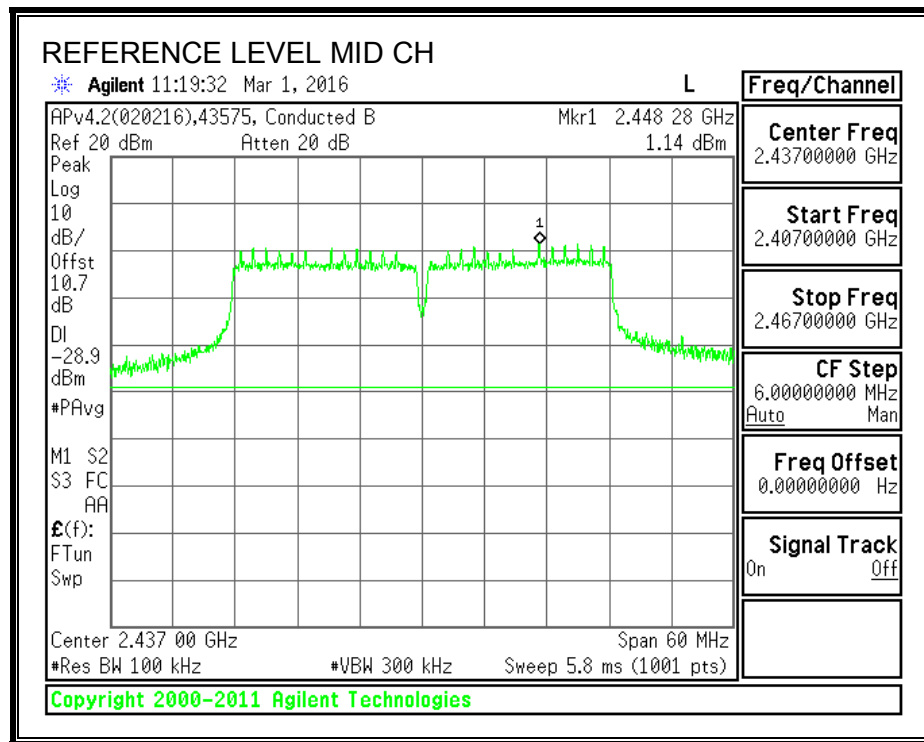
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

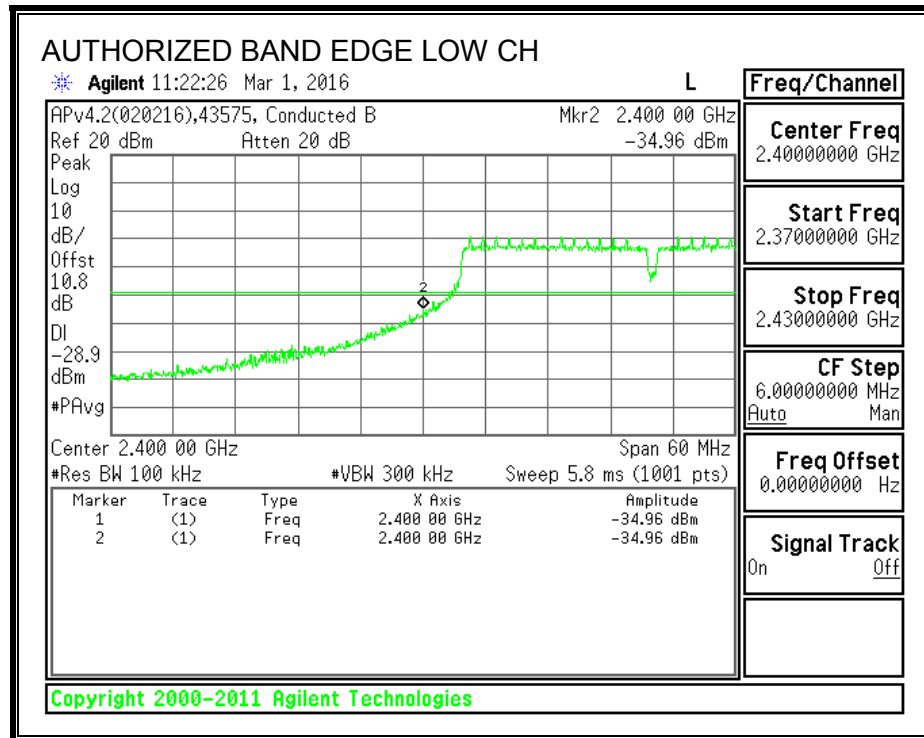
#### **TEST PROCEDURE**

The transmitter output is connected to a spectrum analyzer with RBW = 100 kHz, VBW = 300 kHz, peak detector, and max hold. Measurements utilizing these settings are made of the in-band reference level, bandedge (where measurements to the general radiated limits will not be made) and out-of-band emissions.

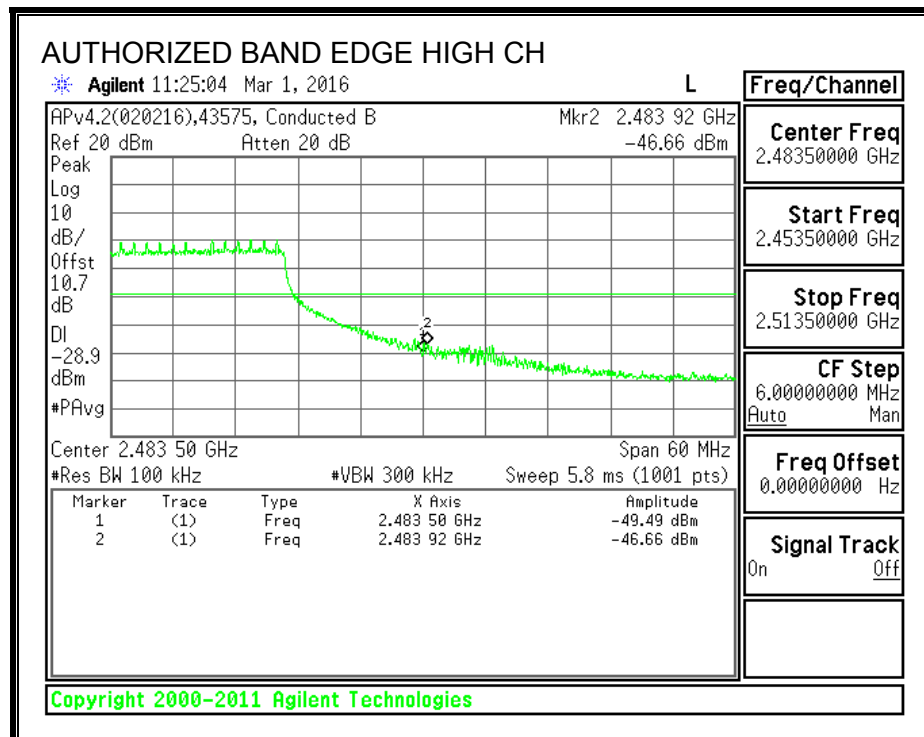
## RESULTS

### IN-BAND REFERENCE LEVEL

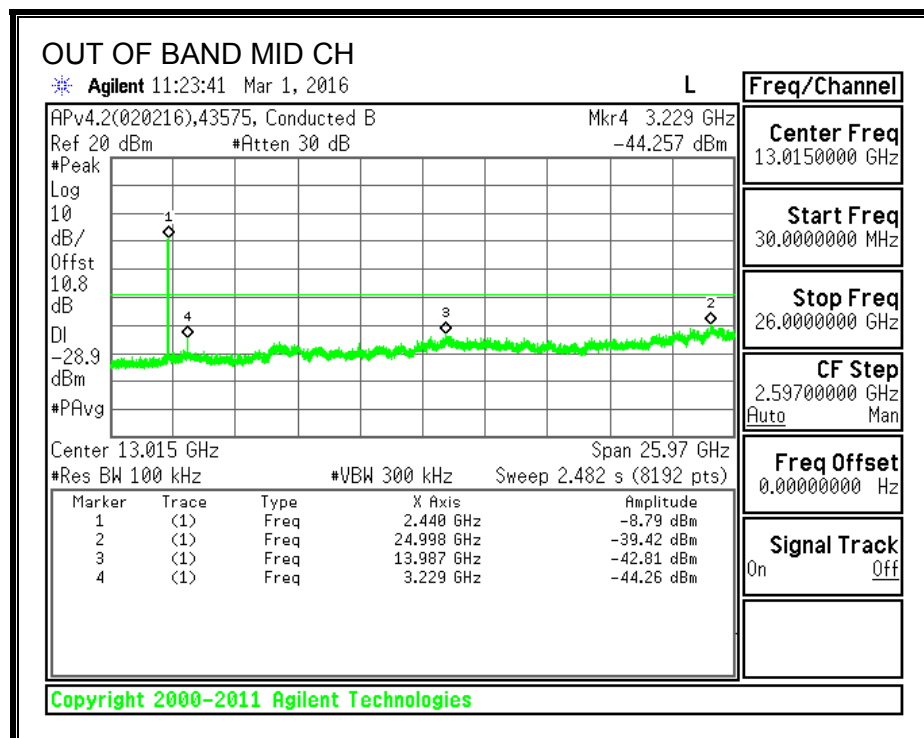
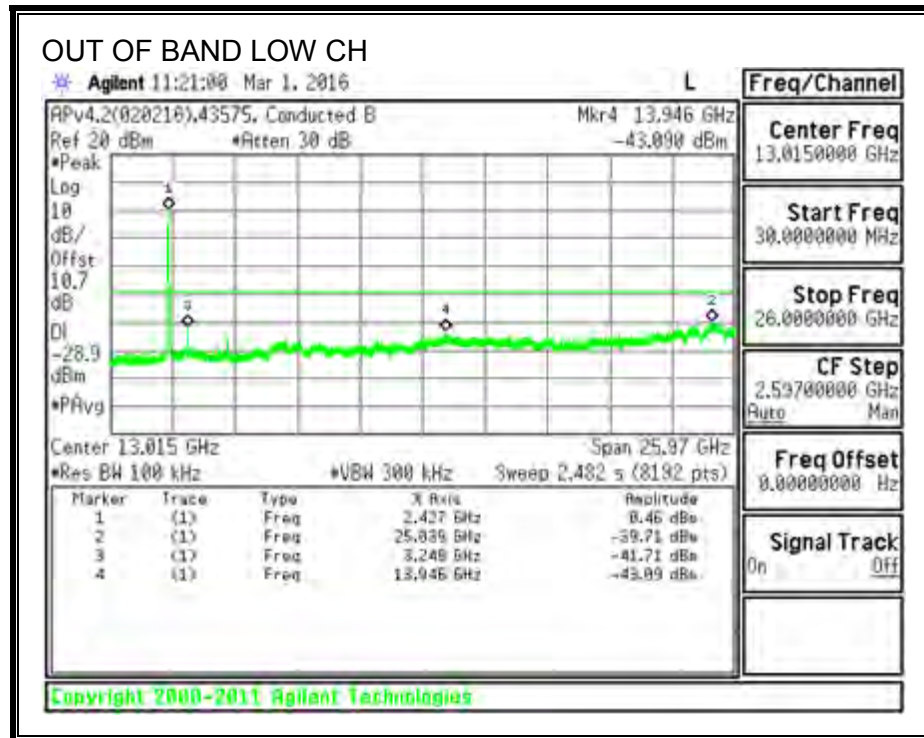




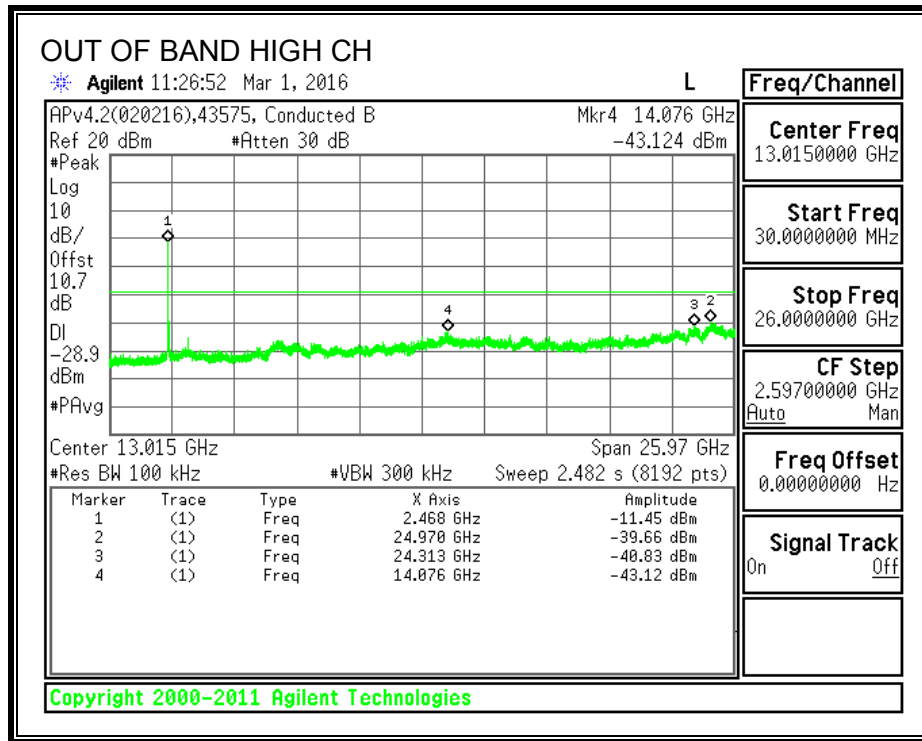
**HIGH CHANNEL BANDEDGE**



**OUT-OF-BAND EMISSIONS**







## 10. RADIATED TEST RESULTS

### 10.1. LIMITS AND PROCEDURE

#### LIMITS

FCC §15.205 and §15.209

IC RSS-GEN Clause 8.9 (Transmitter)

| Frequency Range (MHz) | Field Strength Limit (uV/m) at 3 m | Field Strength Limit (dBuV/m) at 3 m |
|-----------------------|------------------------------------|--------------------------------------|
| 30 - 88               | 100                                | 40                                   |
| 88 - 216              | 150                                | 43.5                                 |
| 216 - 960             | 200                                | 46                                   |
| Above 960             | 500                                | 54                                   |

#### TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for below 1GHz and 150cm for above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and add duty cycle factor for average measurements. Duty cycle factor =  $10 \log (1/x)$ .

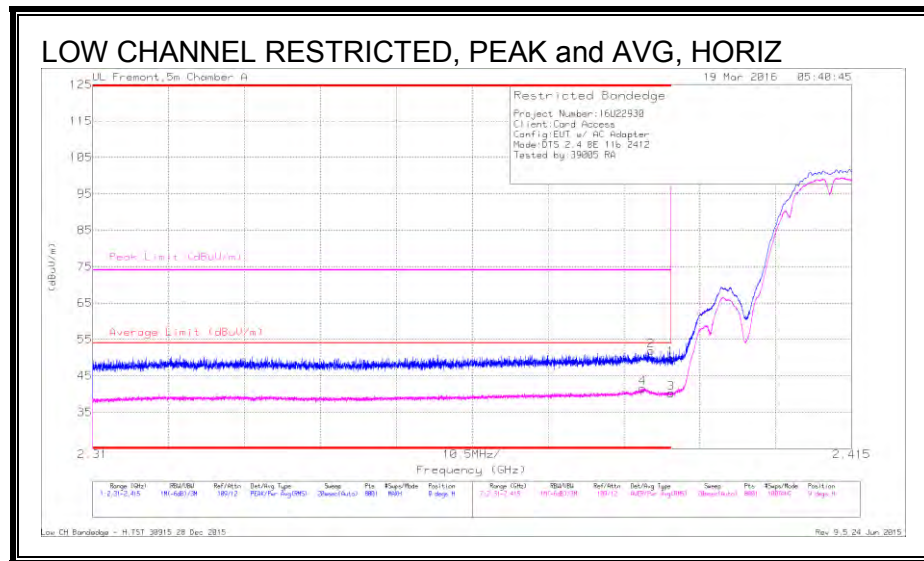
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

## 10.2. TRANSMITTER ABOVE 1 GHz

## 10.3. TX ABOVE 1 GHz 802.11b MODE IN THE 2.4 GHz BAND

### RESTRICTED BANDEDGE (LOW CHANNEL)



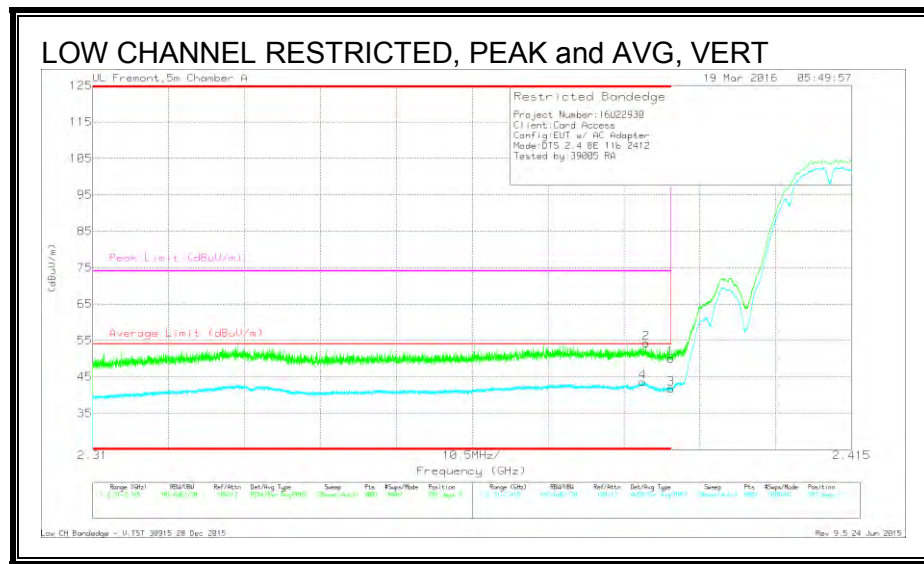
### Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Fit r/Pad (db) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.39          | 37.35                | Pk  | 32.3           | -19.9                  | 0            | 49.75                      | -                      | -           | 74                  | -24.25         | 9              | 279         | H        |
| 2      | * 2.387         | 39.48                | Pk  | 32.3           | -19.9                  | 0            | 51.88                      | -                      | -           | 74                  | -22.12         | 9              | 279         | H        |
| 3      | * 2.39          | 27.79                | RMS | 32.3           | -19.9                  | 0            | 40.19                      | 54                     | -13.81      | -                   | -              | 9              | 279         | H        |
| 4      | * 2.386         | 29.3                 | RMS | 32.2           | -19.9                  | 0            | 41.6                       | 54                     | -12.4       | -                   | -              | 9              | 279         | H        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection



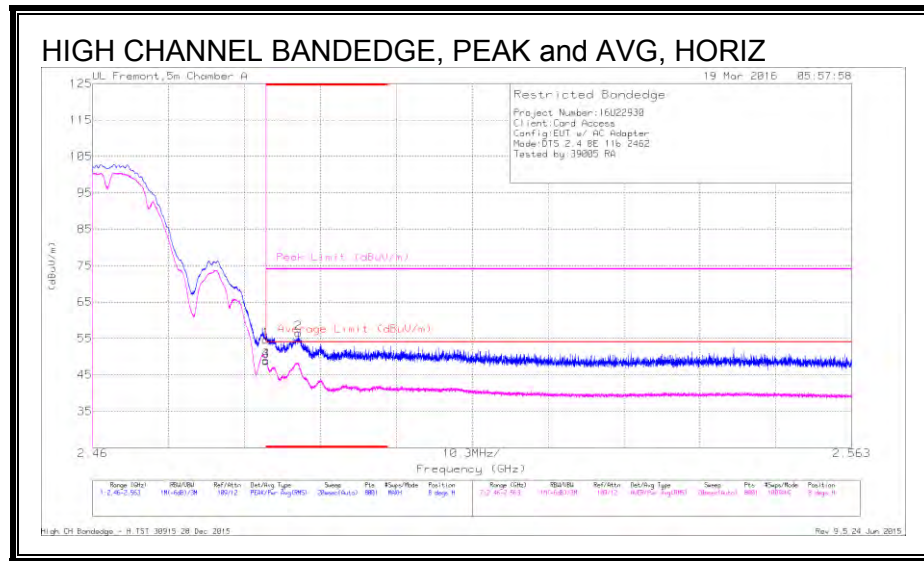
## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Fit r/Pad (db) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 4      | * 2.386         | 31.25                | RMS | 32.2           | -19.9                  | 0            | 43.55                      | 54                     | -10.45      | -                   | -              | 287            | 186         | V        |
| 2      | * 2.387         | 41.83                | Pk  | 32.3           | -19.9                  | 0            | 54.23                      | -                      | -           | 74                  | -19.77         | 287            | 186         | V        |
| 1      | * 2.39          | 37.62                | Pk  | 32.3           | -19.9                  | 0            | 50.02                      | -                      | -           | 74                  | -23.98         | 287            | 186         | V        |
| 3      | * 2.39          | 29.31                | RMS | 32.3           | -19.9                  | 0            | 41.71                      | 54                     | -12.29      | -                   | -              | 287            | 186         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

**AUTHORIZED BANDEGE (HIGH CHANNEL)**

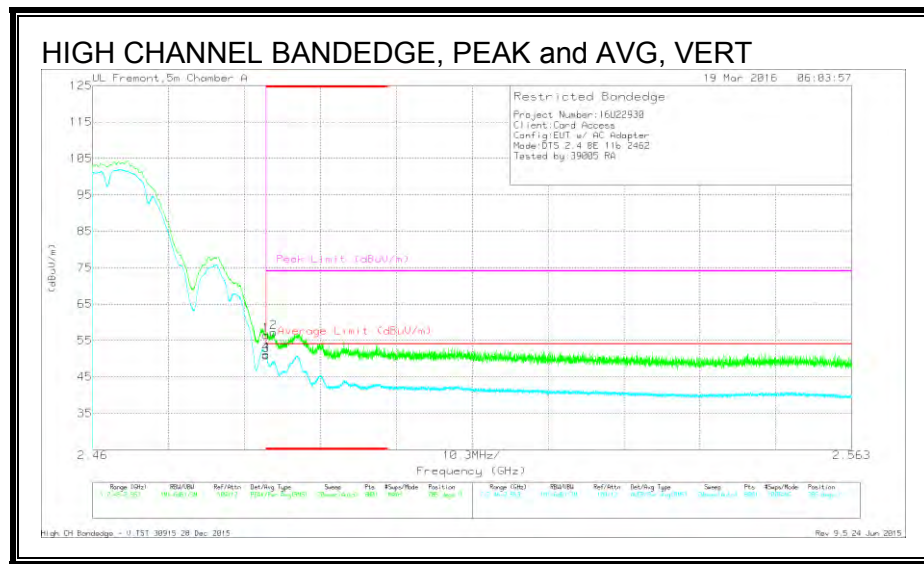
## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Fit r/Pad (db) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 42.2                 | Pk  | 32.4           | -20                    | 0            | 54.6                       | -                      | -           | 74                  | -19.4          | 8              | 303         | H        |
| 3      | * 2.484         | 36.39                | RMS | 32.4           | -20                    | 0            | 48.79                      | 54                     | -5.21       | -                   | -              | 8              | 303         | H        |
| 4      | * 2.484         | 36.55                | RMS | 32.4           | -20                    | 0            | 48.95                      | 54                     | -5.05       | -                   | -              | 8              | 303         | H        |
| 2      | * 2.488         | 44                   | Pk  | 32.5           | -20                    | 0            | 56.5                       | -                      | -           | 74                  | -17.5          | 8              | 303         | H        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection



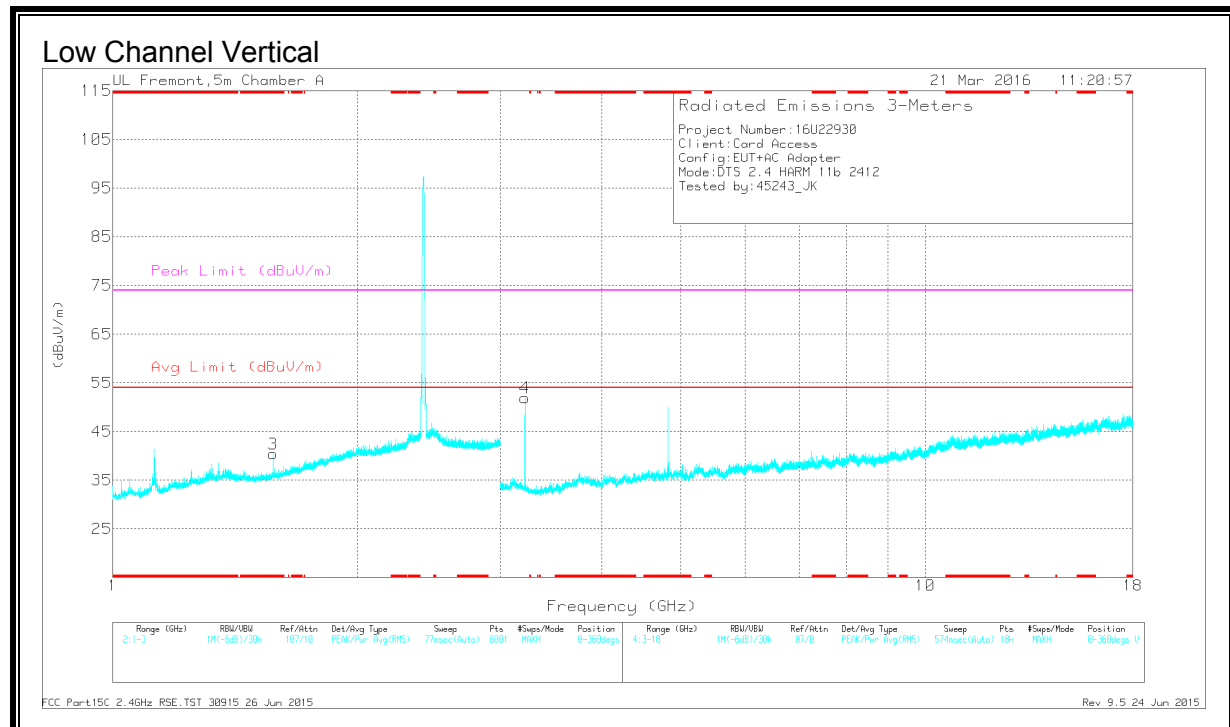
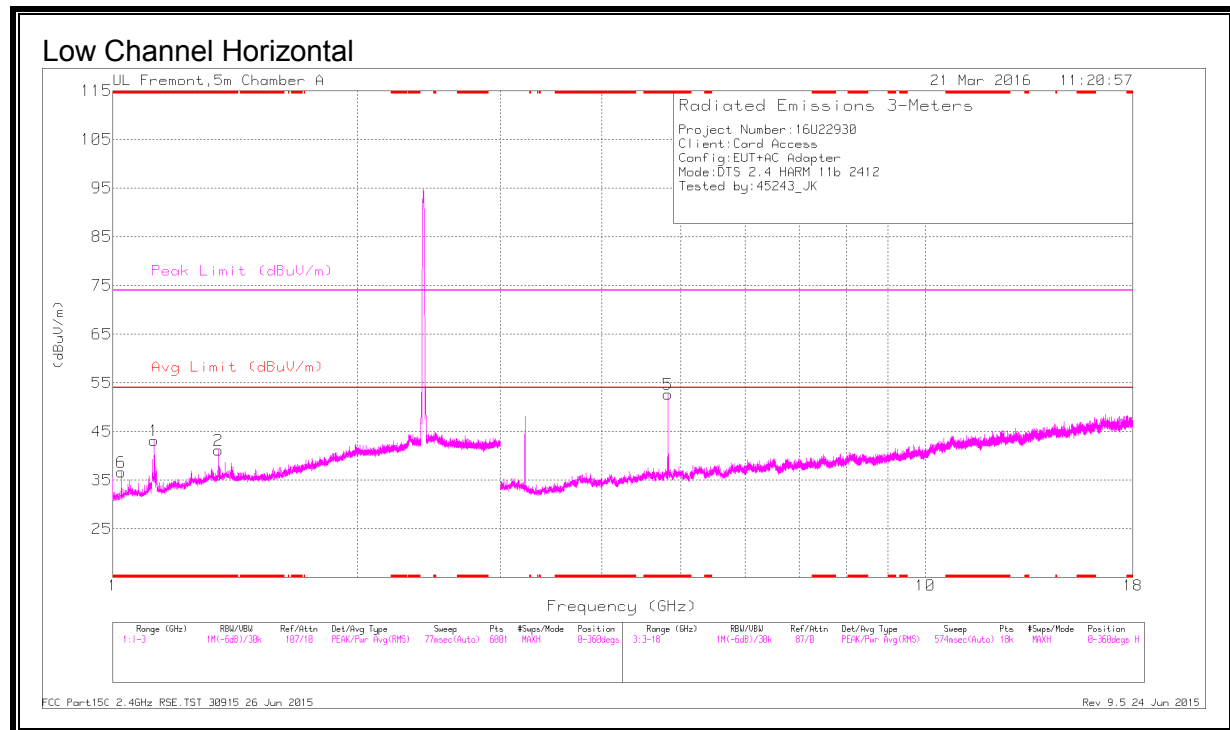
## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Fit r/Pad (db) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 44.07                | Pk  | 32.4           | -20                    | 0            | 56.47                      | -                      | -           | 74                  | -17.53         | 285            | 175         | V        |
| 3      | * 2.484         | 38.5                 | RMS | 32.4           | -20                    | 0            | 50.9                       | 54                     | -3.1        | -                   | -              | 285            | 175         | V        |
| 4      | * 2.484         | 38.8                 | RMS | 32.4           | -20                    | 0            | 51.2                       | 54                     | -2.8        | -                   | -              | 285            | 175         | V        |
| 2      | * 2.485         | 44.89                | Pk  | 32.4           | -20                    | 0            | 57.29                      | -                      | -           | 74                  | -16.71         | 285            | 175         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

**HARMONICS AND SPURIOUS EMISSIONS**

Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Ftr /Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 1.125         | 37.44                | Pk  | 27.9           | -22.2                 | 0            | 43.14                      | -                  | -           | 74                  | -30.86         | 0-360          | 201         | H        |
| 2      | * 1.35          | 33.05                | Pk  | 29             | -20.9                 | 0            | 41.15                      | -                  | -           | 74                  | -32.85         | 0-360          | 201         | H        |
| 6      | * 1.025         | 32.27                | Pk  | 27.6           | -23.2                 | 0            | 36.67                      | -                  | -           | 74                  | -37.33         | 0-360          | 101         | H        |
| 3      | * 1.575         | 32.39                | Pk  | 28.1           | -20.1                 | 0            | 40.39                      | -                  | -           | 74                  | -33.61         | 0-360          | 200         | V        |
| 5      | * 4.824         | 47.94                | Pk  | 34.3           | -29.6                 | 0            | 52.64                      | -                  | -           | 74                  | -21.36         | 0-360          | 100         | H        |
| 4      | 3.216           | 50.93                | Pk  | 33.2           | -32.2                 | 0            | 51.93                      | -                  | -           | -                   | -              | 0-360          | 200         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

## Radiated Emissions

| Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T346 (db/m) | Amp/Cbl/Ftr /Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|------|----------------|-----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| * 1.125         | 45.45                | PK2  | 27.9           | -22.2                 | 0            | 51.15                      | -                  | -           | 74                  | -22.85         | 288            | 327         | H        |
| * 1.125         | 33.39                | MAV1 | 27.9           | -22.2                 | 0            | 39.09                      | 54                 | -14.91      | -                   | -              | 288            | 327         | H        |
| * 1.35          | 39.8                 | PK2  | 29             | -20.9                 | 0            | 47.9                       | -                  | -           | 74                  | -26.1          | 278            | 210         | H        |
| * 1.35          | 30.88                | MAV1 | 29             | -20.9                 | 0            | 38.98                      | 54                 | -15.02      | -                   | -              | 278            | 210         | H        |
| * 1.025         | 38.85                | PK2  | 27.6           | -23.2                 | 0            | 43.25                      | -                  | -           | 74                  | -30.75         | 286            | 194         | H        |
| * 1.025         | 28.87                | MAV1 | 27.6           | -23.2                 | 0            | 33.27                      | 54                 | -20.73      | -                   | -              | 286            | 194         | H        |
| * 1.575         | 41.11                | PK2  | 28.1           | -20.1                 | 0            | 49.11                      | -                  | -           | 74                  | -24.89         | 151            | 114         | V        |
| * 1.575         | 27.61                | MAV1 | 28.1           | -20.1                 | 0            | 35.61                      | 54                 | -18.39      | -                   | -              | 151            | 114         | V        |
| * 4.824         | 51.28                | PK2  | 34.3           | -29.6                 | 0            | 55.98                      | -                  | -           | 74                  | -18.02         | 297            | 109         | H        |
| * 4.824         | 48.88                | MAV1 | 34.3           | -29.6                 | 0            | 53.58                      | 54                 | -42         | -                   | -              | 297            | 109         | H        |
| 3.216           | 52.83                | PK2  | 33.2           | -32.2                 | 0            | 53.83                      | -                  | -           | 74                  | -20.17         | 184            | 200         | V        |

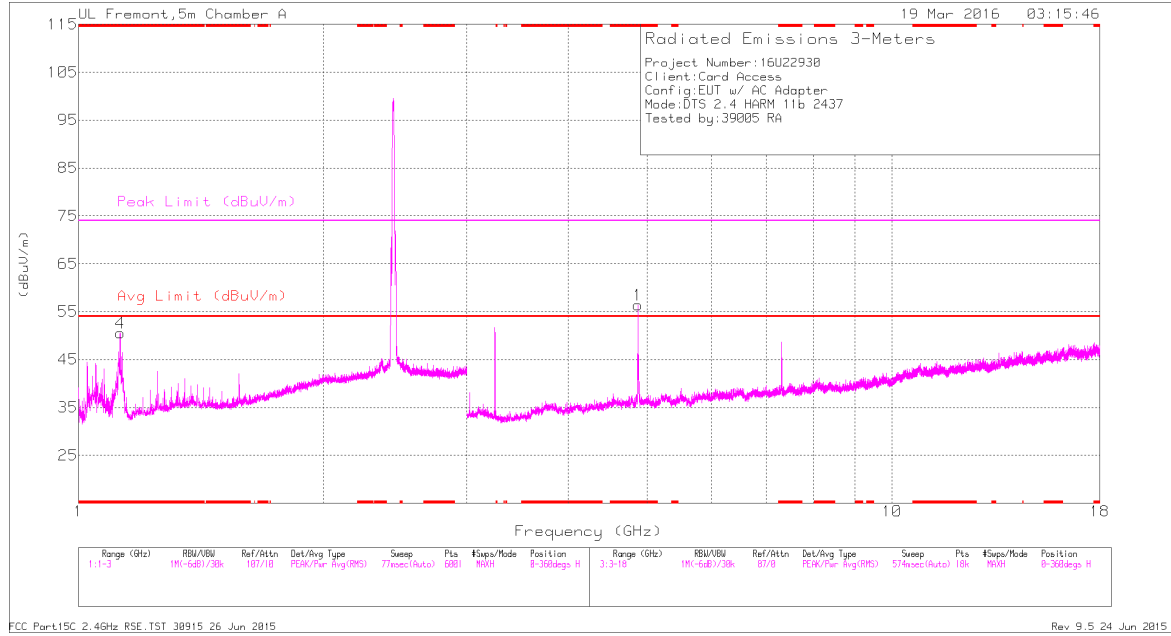
\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

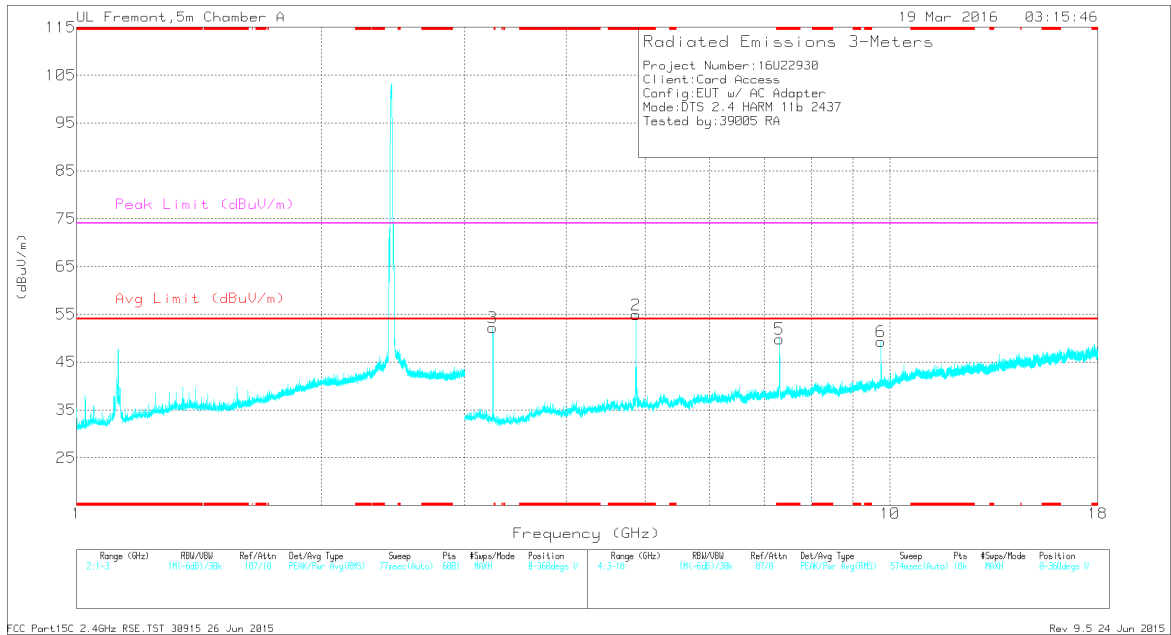
MAV1 - KDB558074 Option 1 Maximum RMS Average



### Mid Channel Horizontal



### Mid Channel Vertical



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

# Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Filtr /Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-------------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 4      | * 1.125         | 44.85                | Pk  | 27.9           | -22.2                   | 0            | 50.55                      | -                  | -           | 74                  | -23.45         | 0-360          | 100         | H        |
| 1      | * 4.874         | 51.36                | Pk  | 34.3           | -29.3                   | 0            | 56.36                      | -                  | -           | 74                  | -17.64         | 0-360          | 100         | H        |
| 2      | * 4.874         | 49.86                | Pk  | 34.3           | -29.3                   | 0            | 54.86                      | -                  | -           | 74                  | -19.14         | 0-360          | 200         | V        |
| 5      | * 7.312         | 40.75                | Pk  | 35.7           | -26.6                   | 0            | 49.85                      | -                  | -           | 74                  | -24.15         | 0-360          | 100         | V        |
| 3      | 3.249           | 51.67                | Pk  | 33             | -32.5                   | 0            | 52.17                      | -                  | -           | -                   | -              | 0-360          | 200         | V        |
| 6      | 9.747           | 35.66                | Pk  | 36.7           | -23.1                   | 0            | 49.26                      | -                  | -           | -                   | -              | 0-360          | 100         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

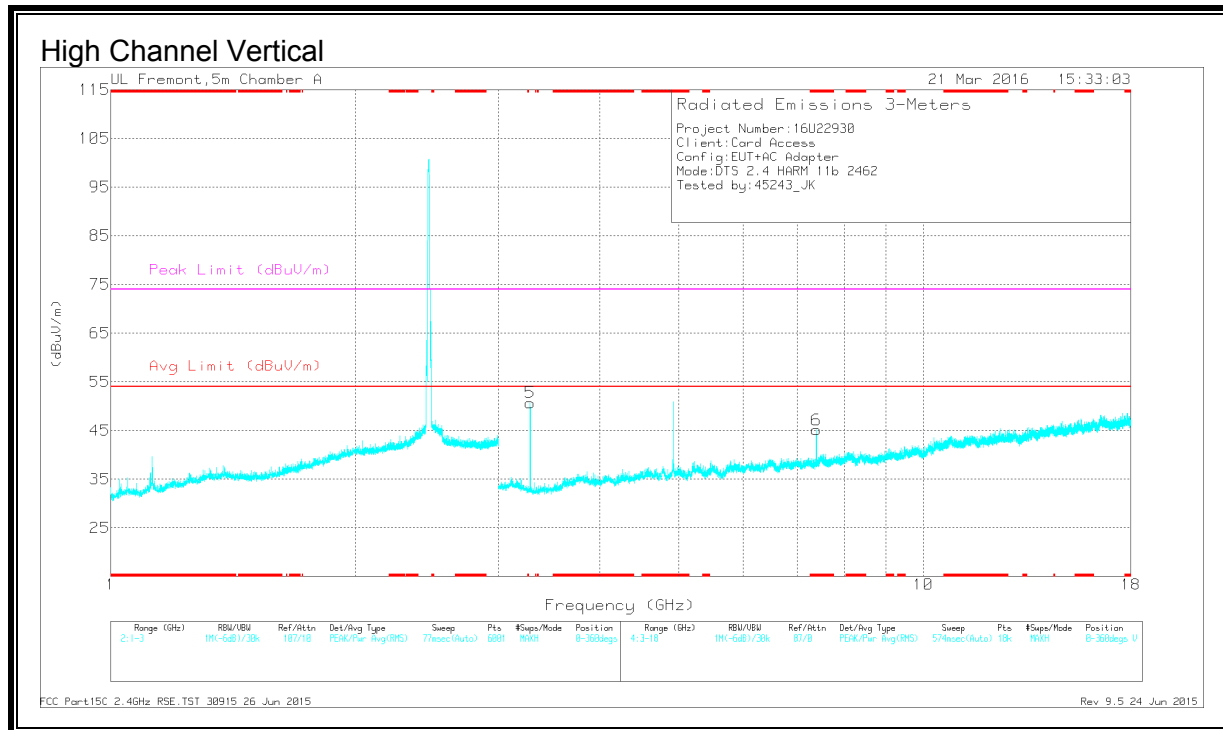
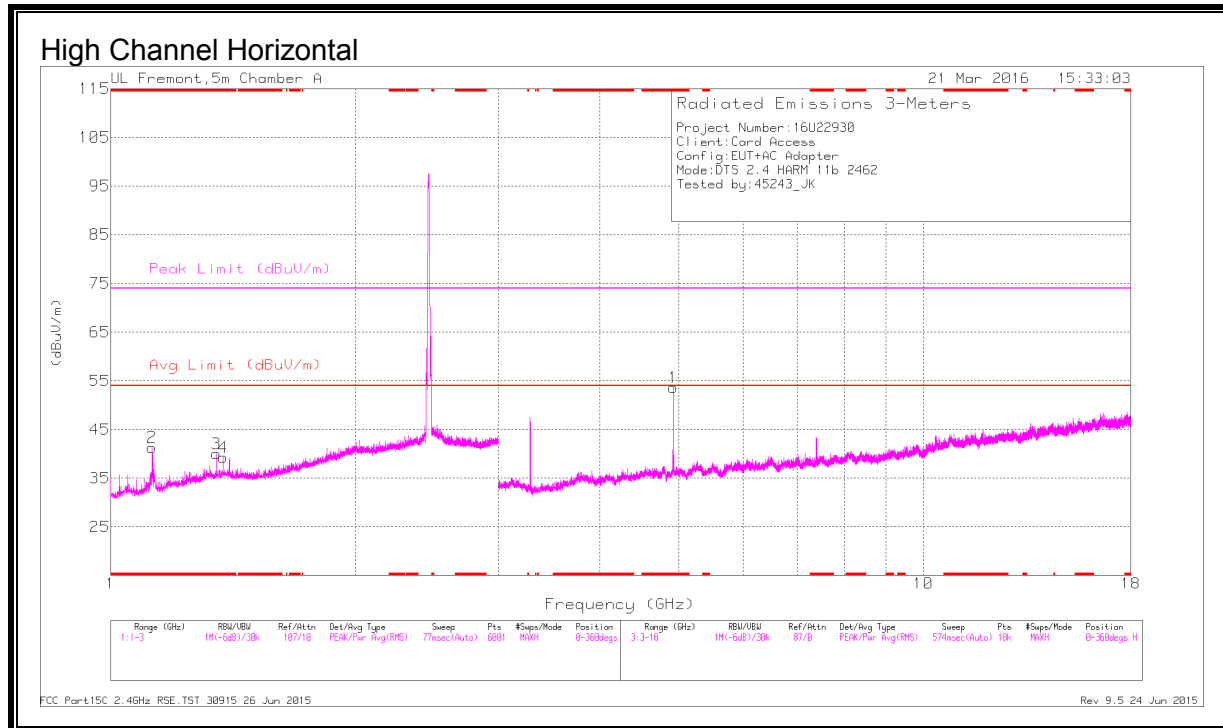
# Radiated Emissions

| Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T346 (db/m) | Amp/Cbl/Filtr /Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|------|----------------|-------------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| * 1.125         | 37.33                | PK2  | 27.9           | -22.2                   | 0            | 43.03                      | -                  | -           | 74                  | -30.97         | 172            | 369         | H        |
| * 1.125         | 31.22                | MAV1 | 27.9           | -22.2                   | 0            | 36.92                      | 54                 | -17.08      | -                   | -              | 172            | 369         | H        |
| * 4.874         | 50.16                | PK2  | 34.3           | -29.3                   | 0            | 55.16                      | -                  | -           | 74                  | -18.84         | 189            | 104         | H        |
| * 4.874         | 48.84                | MAV1 | 34.3           | -29.3                   | 0            | 53.84                      | 54                 | -16         | -                   | -              | 189            | 104         | H        |
| * 4.874         | 48.53                | PK2  | 34.3           | -29.3                   | 0            | 53.53                      | -                  | -           | 74                  | -20.47         | 182            | 134         | V        |
| * 4.874         | 47.13                | MAV1 | 34.3           | -29.3                   | 0            | 52.13                      | 54                 | -1.87       | -                   | -              | 182            | 134         | V        |
| * 7.312         | 39.87                | PK2  | 35.7           | -26.6                   | 0            | 48.97                      | -                  | -           | 74                  | -25.03         | 255            | 124         | V        |
| * 7.312         | 35.07                | MAV1 | 35.7           | -26.6                   | 0            | 44.17                      | 54                 | -9.83       | -                   | -              | 255            | 124         | V        |
| 3.249           | 52.75                | PK2  | 33             | -32.5                   | 0            | 53.25                      | -                  | -           | 74                  | -20.75         | 37             | 159         | V        |
| 9.748           | 33.74                | PK2  | 36.7           | -23                     | 0            | 47.44                      | -                  | -           | 74                  | -26.56         | 54             | 101         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

# Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Filtr /Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-------------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 2      | * 1.125         | 35.63                | Pk  | 27.9           | -22.2                   | 0            | 41.33                      | -                  | -           | 74                  | -32.67         | 0-360          | 100         | H        |
| 3      | * 1.35          | 31.9                 | Pk  | 29             | -20.9                   | 0            | 40                         | -                  | -           | 74                  | -34            | 0-360          | 100         | H        |
| 4      | * 1.375         | 31.18                | Pk  | 29             | -20.9                   | 0            | 39.28                      | -                  | -           | 74                  | -34.72         | 0-360          | 201         | H        |
| 1      | * 4.924         | 48.64                | Pk  | 34.3           | -29.3                   | 0            | 53.64                      | -                  | -           | 74                  | -20.36         | 0-360          | 100         | H        |
| 6      | * 7.386         | 35.14                | Pk  | 35.7           | -25.7                   | 0            | 45.14                      | -                  | -           | 74                  | -28.86         | 0-360          | 200         | V        |
| 5      | 3.282           | 50.61                | Pk  | 32.8           | -32.7                   | 0            | 50.71                      | -                  | -           | -                   | -              | 0-360          | 200         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

# Radiated Emissions

| Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T346 (db/m) | Amp/Cbl/Filtr /Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|------|----------------|-------------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| * 1.125         | 44.3                 | PK2  | 27.9           | -22.2                   | 0            | 50                         | -                  | -           | 74                  | -24            | 343            | 176         | H        |
| * 1.125         | 31.07                | MAV1 | 27.9           | -22.2                   | 0            | 36.77                      | 54                 | -17.23      | -                   | -              | 343            | 176         | H        |
| * 1.35          | 38.6                 | PK2  | 29             | -20.9                   | 0            | 46.7                       | -                  | -           | 74                  | -27.3          | 261            | 277         | H        |
| * 1.35          | 27.5                 | MAV1 | 29             | -20.9                   | 0            | 35.6                       | 54                 | -18.4       | -                   | -              | 261            | 277         | H        |
| * 1.375         | 38.02                | PK2  | 29             | -20.9                   | 0            | 46.12                      | -                  | -           | 74                  | -27.88         | 261            | 309         | H        |
| * 1.375         | 27.82                | MAV1 | 29             | -20.9                   | 0            | 35.92                      | 54                 | -18.08      | -                   | -              | 261            | 309         | H        |
| * 4.924         | 50.64                | PK2  | 34.3           | -29.3                   | 0            | 55.64                      | -                  | -           | 74                  | -18.36         | 289            | 128         | H        |
| * 4.924         | 47.59                | MAV1 | 34.3           | -29.3                   | 0            | 52.59                      | 54                 | -1.41       | -                   | -              | 289            | 128         | H        |
| * 7.388         | 41.68                | PK2  | 35.7           | -25.7                   | 0            | 51.68                      | -                  | -           | 74                  | -22.32         | 144            | 192         | V        |
| * 7.387         | 34.04                | MAV1 | 35.7           | -25.7                   | 0            | 44.04                      | 54                 | -9.96       | -                   | -              | 144            | 192         | V        |
| 3.283           | 53.62                | PK2  | 32.8           | -32.7                   | 0            | 53.72                      | -                  | -           | 74                  | -20.28         | 110            | 252         | V        |
| 3.283           | 51.36                | MAV1 | 32.8           | -32.7                   | 0            | 51.46                      | -                  | -           | -                   | -              | 110            | 252         | V        |

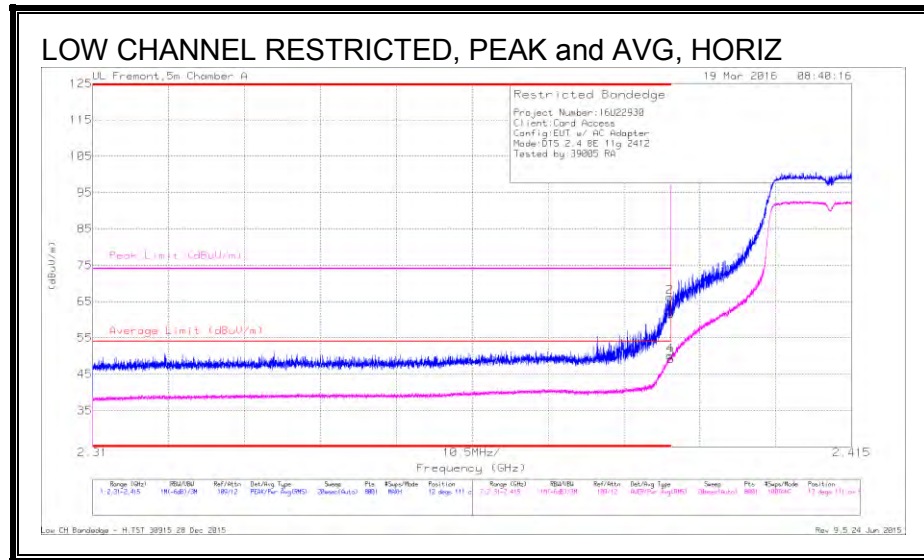
\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average

## 10.4. TX ABOVE 1 GHz 802.11g MODE IN THE 2.4 GHz BAND

### RESTRICTED BANDEDGE (LOW CHANNEL 2412MHz)



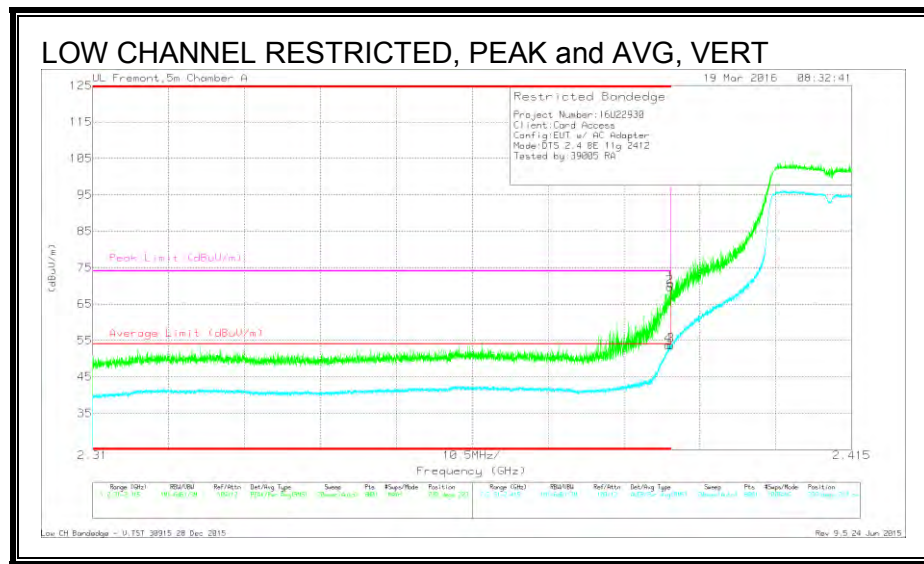
### Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Fit r/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.39          | 49.21                | Pk  | 32.3           | -19.9                  | 0            | 61.61                      | -                      | -           | 74                  | -12.39         | 12             | 111         | H        |
| 2      | * 2.39          | 53.83                | Pk  | 32.3           | -19.9                  | 0            | 66.23                      | -                      | -           | 74                  | -7.77          | 12             | 111         | H        |
| 3      | * 2.39          | 36.63                | RMS | 32.3           | -19.9                  | .16          | 49.19                      | 54                     | -4.81       | -                   | -              | 12             | 111         | H        |
| 4      | * 2.39          | 37.65                | RMS | 32.3           | -19.9                  | .16          | 50.21                      | 54                     | -3.79       | -                   | -              | 12             | 111         | H        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection



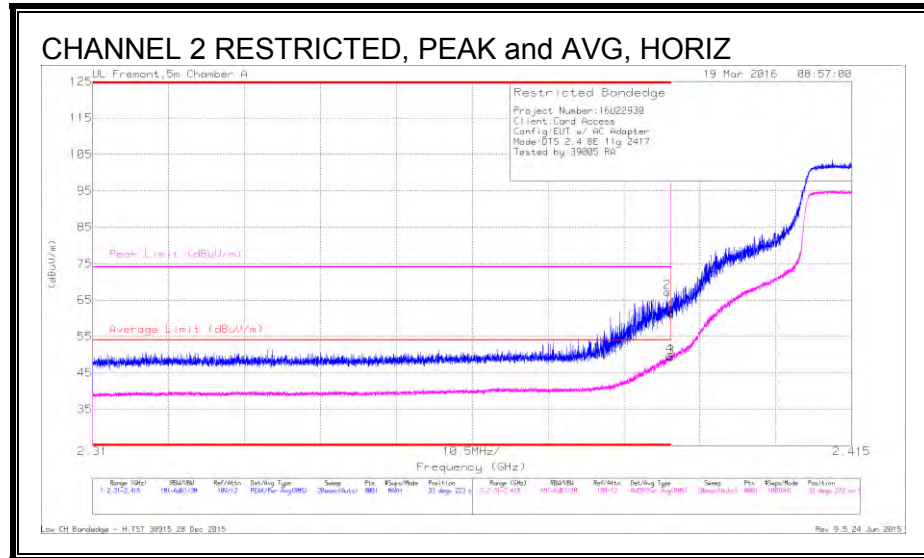
## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Fit r/Pad (db) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.39          | 58.21                | Pk  | 32.3           | -19.9                  | 0            | 70.61                      | -                      | -           | 74                  | -3.39          | 239            | 223         | V        |
| 2      | * 2.39          | 57.25                | Pk  | 32.3           | -19.9                  | 0            | 69.65                      | -                      | -           | 74                  | -4.35          | 239            | 223         | V        |
| 3      | * 2.39          | 41.04                | RMS | 32.3           | -19.9                  | .16          | 53.6                       | 54                     | -.4         | -                   | -              | 239            | 223         | V        |
| 4      | * 2.39          | 41.05                | RMS | 32.3           | -19.9                  | .16          | 53.61                      | 54                     | -.39        | -                   | -              | 239            | 223         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

**RESTRICTED BANDEDGE (CHANNEL 2, 2417MHz)**

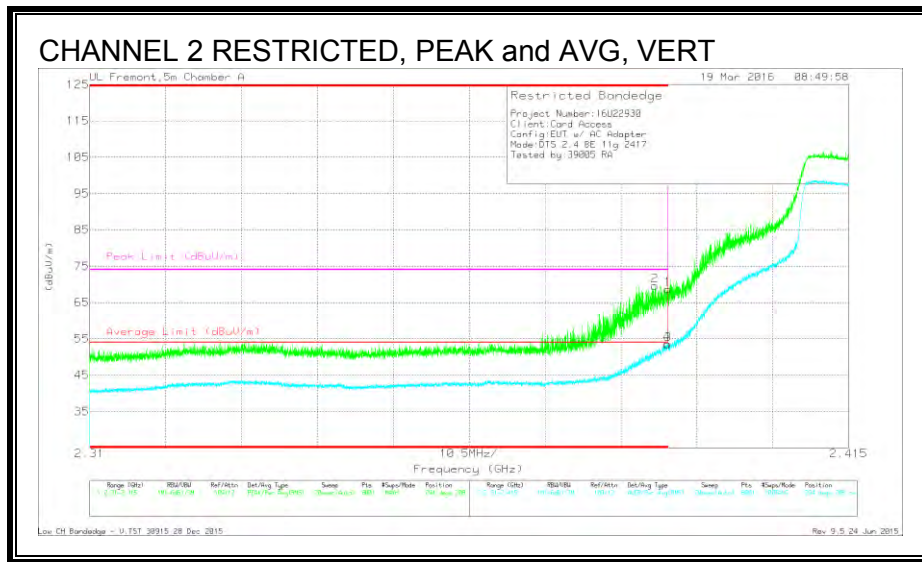
## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Fit r/Pad (db) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.39          | 49.03                | Pk  | 32.3           | -19.9                  | 0            | 61.43                      | -                      | -           | 74                  | -12.57         | 33             | 223         | H        |
| 2      | * 2.389         | 54.83                | Pk  | 32.3           | -19.9                  | 0            | 67.23                      | -                      | -           | 74                  | -6.77          | 33             | 223         | H        |
| 3      | * 2.39          | 36.7                 | RMS | 32.3           | -19.9                  | .16          | 49.26                      | 54                     | -4.74       | -                   | -              | 33             | 223         | H        |
| 4      | * 2.39          | 37.09                | RMS | 32.3           | -19.9                  | .16          | 49.65                      | 54                     | -4.35       | -                   | -              | 33             | 223         | H        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection



## Trace Markers

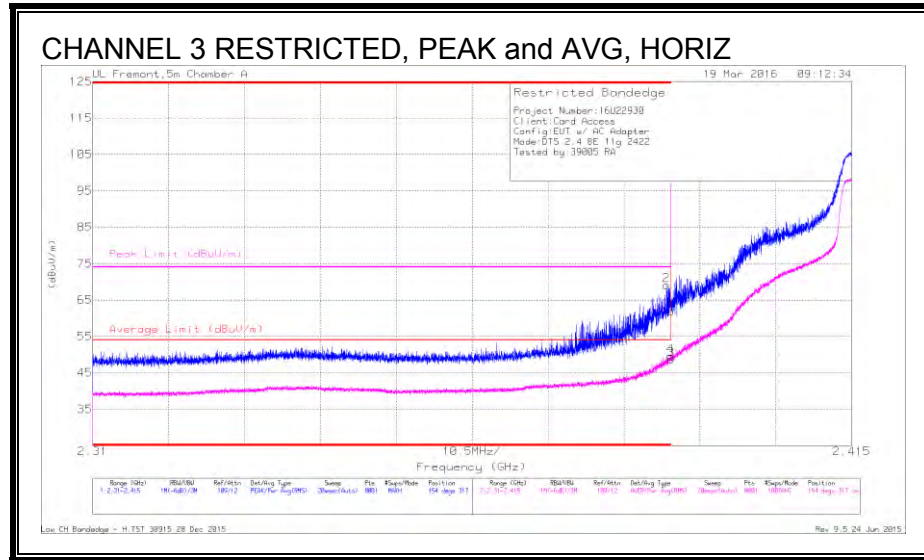
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Fit r/Pad (db) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.39          | 56.24                | Pk  | 32.3           | -19.9                  | 0            | 68.64                      | -                      | -           | 74                  | -5.36          | 294            | 208         | V        |
| 2      | * 2.388         | 57.28                | Pk  | 32.3           | -19.9                  | 0            | 69.68                      | -                      | -           | 74                  | -4.32          | 294            | 208         | V        |
| 3      | * 2.39          | 40.93                | RMS | 32.3           | -19.9                  | .16          | 53.49                      | 54                     | -.51        | -                   | -              | 294            | 208         | V        |
| 4      | * 2.39          | 41.02                | RMS | 32.3           | -19.9                  | .16          | 53.58                      | 54                     | -.42        | -                   | -              | 294            | 208         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection



**RESTRICTED BANDEDGE (CHANNEL 3, 2422MHz)**

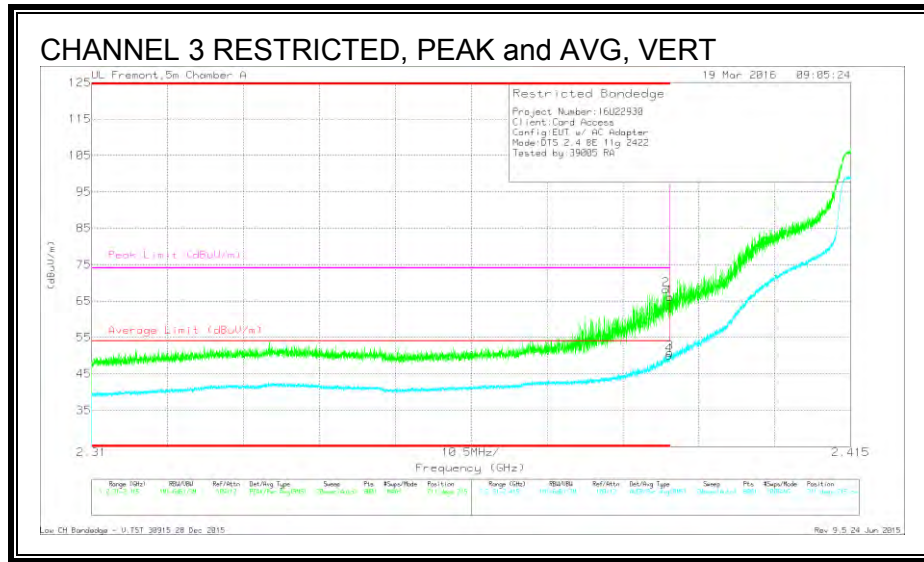
## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Fit r/Pad (db) | DC Corr (db) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (db) | Peak Limit (dBuV/m) | PK Margin (db) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.39          | 49.49                | Pk  | 32.3           | -19.9                  | 0            | 61.89                      | -                      | -           | 74                  | -12.11         | 154            | 317         | H        |
| 2      | * 2.389         | 56.59                | Pk  | 32.3           | -19.9                  | 0            | 68.99                      | -                      | -           | 74                  | -5.01          | 154            | 317         | H        |
| 3      | * 2.39          | 36.08                | RMS | 32.3           | -19.9                  | .16          | 48.64                      | 54                     | -5.36       | -                   | -              | 154            | 317         | H        |
| 4      | * 2.39          | 36.94                | RMS | 32.3           | -19.9                  | .16          | 49.5                       | 54                     | -4.5        | -                   | -              | 154            | 317         | H        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection



## Trace Markers

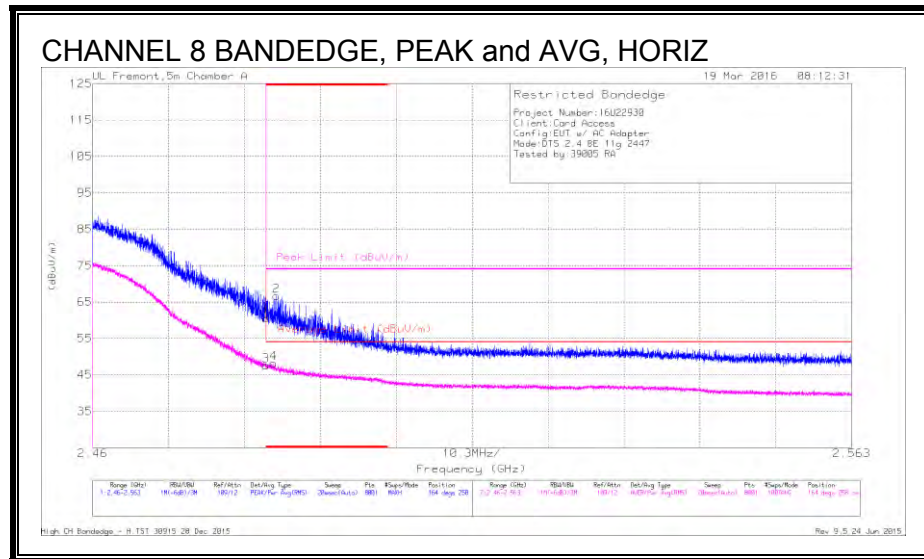
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Filt r/Pad (db) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.39          | 53.64                | Pk  | 32.3           | -19.9                   | 0            | 66.04                      | -                      | -           | 74                  | -7.96          | 211            | 215         | V        |
| 2      | * 2.389         | 55.8                 | Pk  | 32.3           | -19.9                   | 0            | 68.2                       | -                      | -           | 74                  | -5.8           | 211            | 215         | V        |
| 3      | * 2.39          | 38.22                | RMS | 32.3           | -19.9                   | .16          | 50.78                      | 54                     | -3.22       | -                   | -              | 211            | 215         | V        |
| 4      | * 2.39          | 37.48                | RMS | 32.3           | -19.9                   | .16          | 50.04                      | 54                     | -3.96       | -                   | -              | 211            | 215         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

**AUTHORIZED BANDEDGE (CHANNEL 8, 2447MHz)**



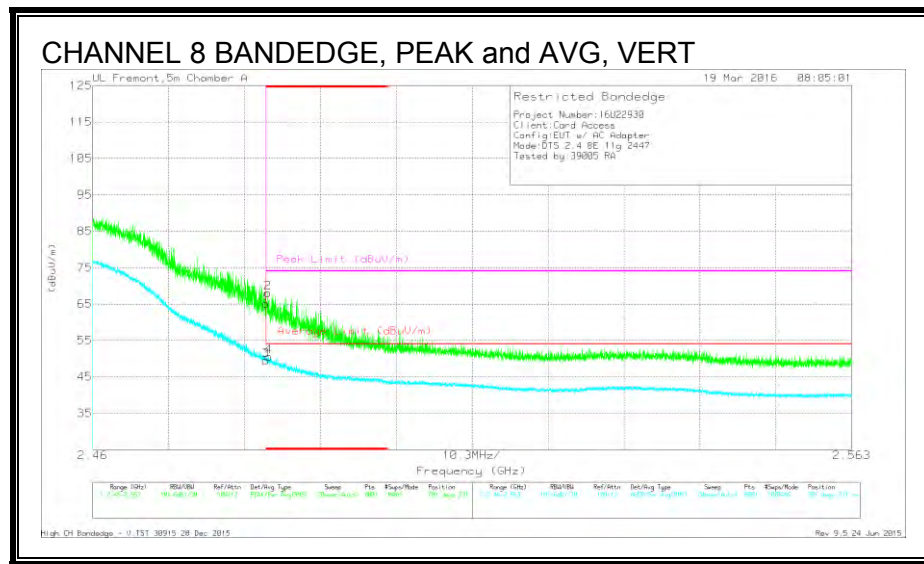
## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (dB/m) | Amp/Cbl/Filt r/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 48.06                | Pk  | 32.4           | -20                     | 0            | 60.46                      | -                      | -           | 74                  | -13.54         | 164            | 258         | H        |
| 2      | * 2.485         | 54.28                | Pk  | 32.4           | -20                     | 0            | 66.68                      | -                      | -           | 74                  | -7.32          | 164            | 258         | H        |
| 3      | * 2.484         | 35.03                | RMS | 32.4           | -20                     | .16          | 47.59                      | 54                     | -6.41       | -                   | -              | 164            | 258         | H        |
| 4      | * 2.485         | 35.63                | RMS | 32.4           | -20                     | .16          | 48.19                      | 54                     | -5.81       | -                   | -              | 164            | 258         | H        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

### RMS - RMS detection



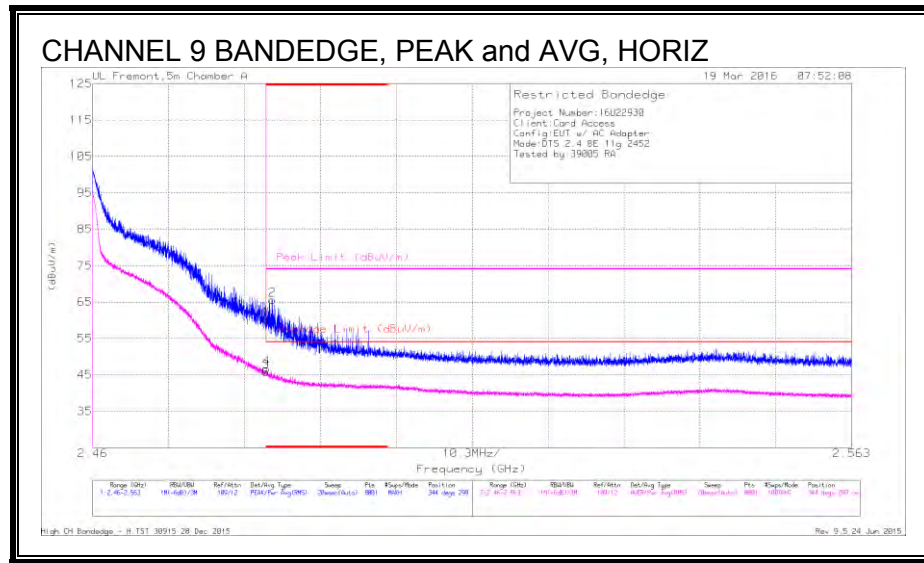
## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Filt r/Pad (db) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 52.63                | Pk  | 32.4           | -20                     | 0            | 65.03                      | -                      | -           | 74                  | -8.97          | 281            | 231         | V        |
| 2      | * 2.484         | 55.59                | Pk  | 32.4           | -20                     | 0            | 67.99                      | -                      | -           | 74                  | -6.01          | 281            | 231         | V        |
| 3      | * 2.484         | 37.01                | RMS | 32.4           | -20                     | .16          | 49.57                      | 54                     | -4.43       | -                   | -              | 281            | 231         | V        |
| 4      | * 2.484         | 38.03                | RMS | 32.4           | -20                     | .16          | 50.59                      | 54                     | -3.41       | -                   | -              | 281            | 231         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

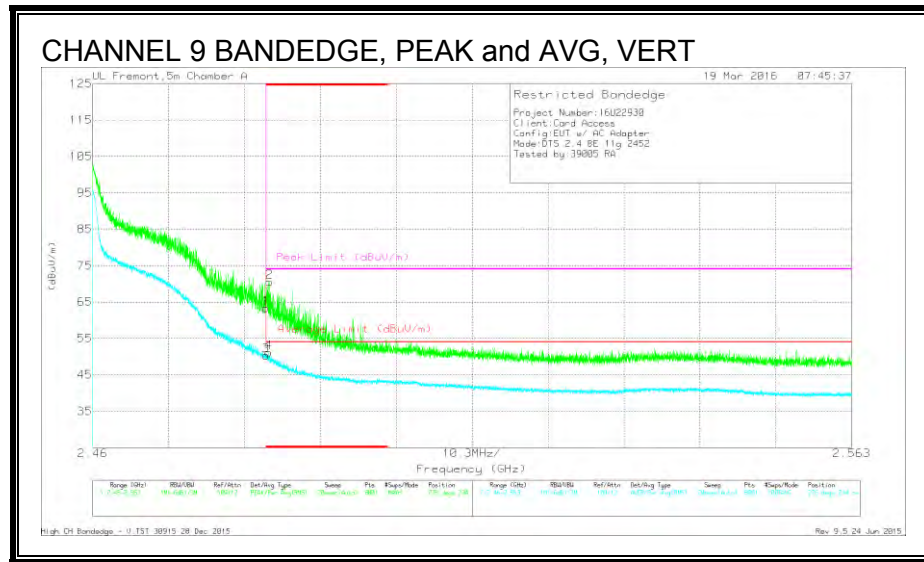
**AUTHORIZED BANDEGE (CHANNEL 9, 2452MHz)****Trace Markers**

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Filt r/Pad (db) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 47.83                | Pk  | 32.4           | -20                     | 0            | 60.23                      | -                      | -           | 74                  | -13.77         | 344            | 299         | H        |
| 2      | * 2.484         | 53.13                | Pk  | 32.4           | -20                     | 0            | 65.53                      | -                      | -           | 74                  | -8.47          | 344            | 299         | H        |
| 3      | * 2.484         | 33.26                | RMS | 32.4           | -20                     | .16          | 45.82                      | 54                     | -8.18       | -                   | -              | 344            | 299         | H        |
| 4      | * 2.484         | 34.19                | RMS | 32.4           | -20                     | .16          | 46.75                      | 54                     | -7.25       | -                   | -              | 344            | 299         | H        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection



## Trace Markers

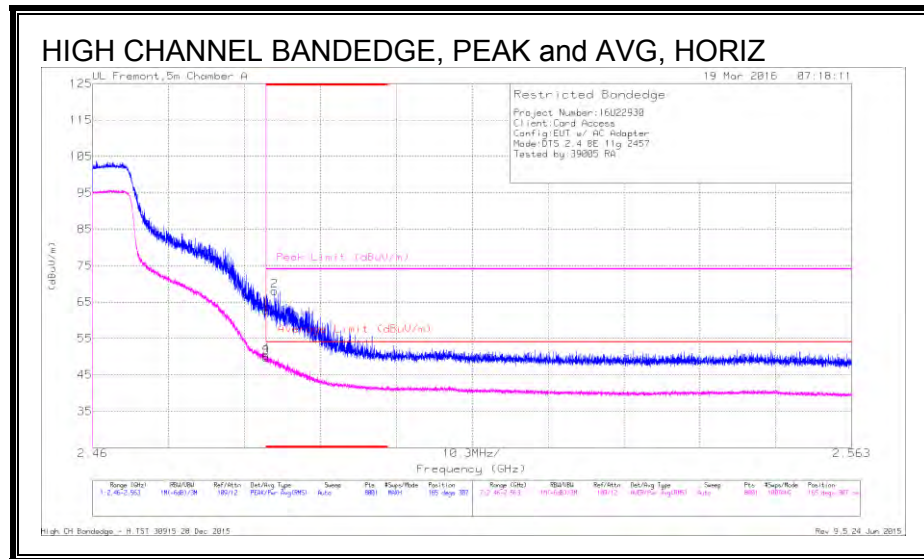
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Fit r/Pad (db) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 50.93                | Pk  | 32.4           | -20                    | 0            | 63.33                      | -                      | -           | 74                  | -10.67         | 276            | 234         | V        |
| 2      | * 2.484         | 58.16                | Pk  | 32.4           | -20                    | 0            | 70.56                      | -                      | -           | 74                  | -3.44          | 276            | 234         | V        |
| 3      | * 2.484         | 37.69                | RMS | 32.4           | -20                    | .16          | 50.25                      | 54                     | -3.75       | -                   | -              | 276            | 234         | V        |
| 4      | * 2.484         | 38.63                | RMS | 32.4           | -20                    | .16          | 51.19                      | 54                     | -2.81       | -                   | -              | 276            | 234         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

**AUTHORIZED BANDEDGE (CHANNEL10, 2457MHz)**



## Trace Markers

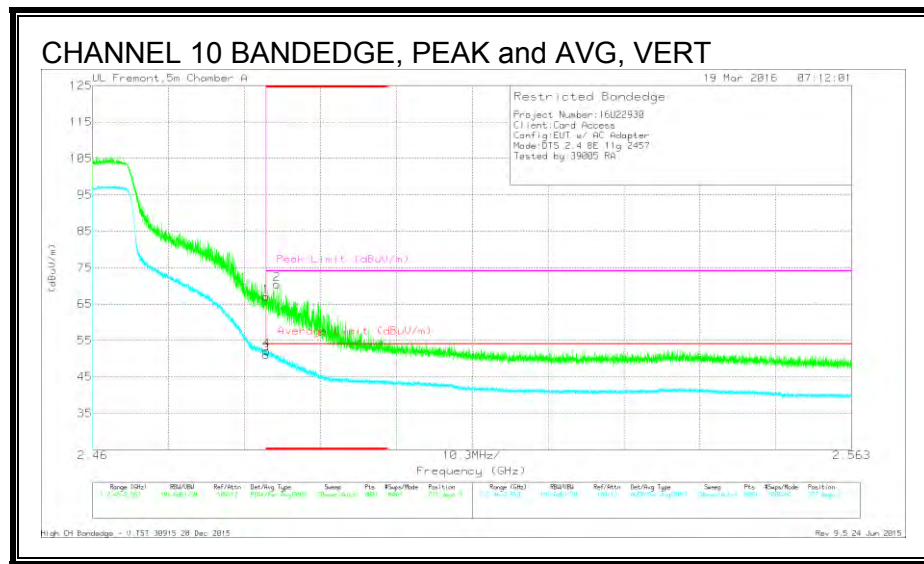
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Filt r/Pad (db) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 50.22                | Pk  | 32.4           | -20                     | 0            | 62.62                      | -                      | -           | 74                  | -11.38         | 165            | 307         | H        |
| 2      | * 2.485         | 55.62                | Pk  | 32.4           | -20                     | 0            | 68.02                      | -                      | -           | 74                  | -5.98          | 165            | 307         | H        |
| 3      | * 2.484         | 37.25                | RMS | 32.4           | -20                     | .16          | 49.81                      | 54                     | -4.19       | -                   | -              | 165            | 307         | H        |
| 4      | * 2.484         | 37.77                | RMS | 32.4           | -20                     | .16          | 50.33                      | 54                     | -3.67       | -                   | -              | 165            | 307         | H        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

## RMS - RMS detection





## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Filt r/Pad (db) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 54.64                | Pk  | 32.4           | -20                     | 0            | 67.04                      | -                      | -           | 74                  | -6.96          | 277            | 196         | V        |
| 3      | * 2.484         | 38.51                | RMS | 32.4           | -20                     | .16          | 51.07                      | 54                     | -2.93       | -                   | -              | 277            | 196         | V        |
| 4      | * 2.484         | 39.57                | RMS | 32.4           | -20                     | .16          | 52.13                      | 54                     | -1.87       | -                   | -              | 277            | 196         | V        |
| 2      | * 2.485         | 57.96                | Pk  | 32.4           | -20                     | 0            | 70.36                      | -                      | -           | 74                  | -3.64          | 277            | 196         | V        |

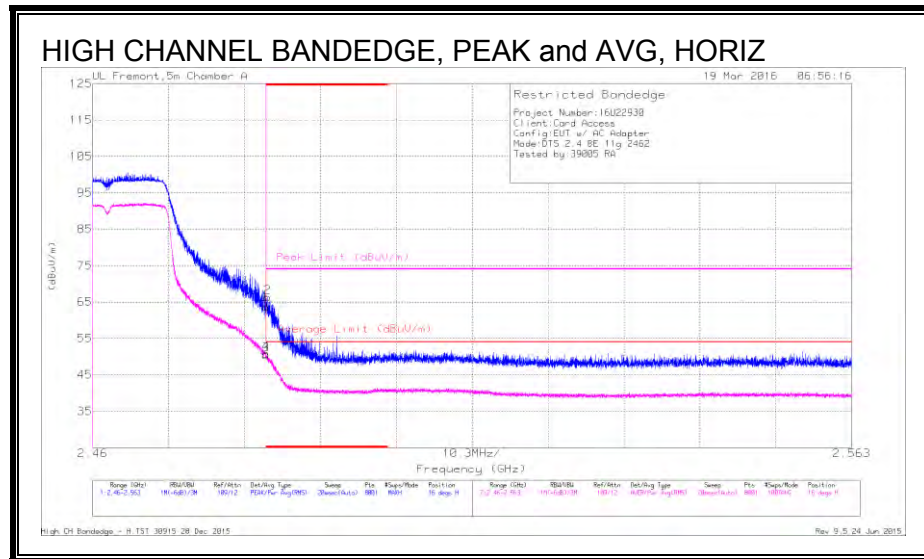
\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection



**AUTHORIZED BANDEDGE (HIGH CHANNEL 2462MHz)**



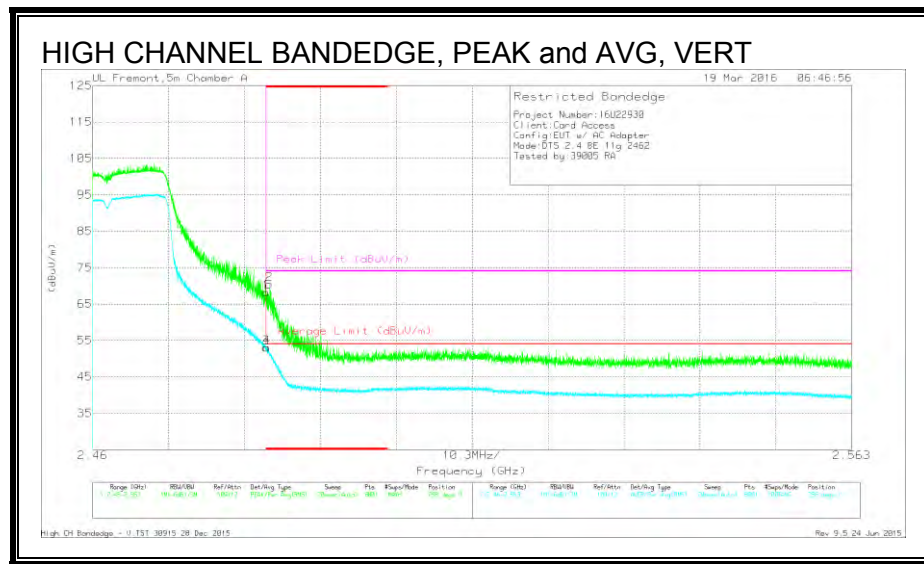
## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AFC T346 (dB/m) | Amp/Chl/Filt r/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|-----------------|-------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 51.34                | Pk  | 32.4            | -20                     | 0            | 63.74                      | -                      | -           | 74                  | -10.26         | 16             | 304         | H        |
| 2      | * 2.484         | 53.91                | Pk  | 32.4            | -20                     | 0            | 66.31                      | -                      | -           | 74                  | -7.69          | 16             | 304         | H        |
| 3      | * 2.484         | 37.92                | RMS | 32.4            | -20                     | .16          | 50.48                      | 54                     | -3.52       | -                   | -              | 16             | 304         | H        |
| 4      | * 2.484         | 38.23                | RMS | 32.4            | -20                     | .16          | 50.79                      | 54                     | -3.21       | -                   | -              | 16             | 304         | H        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

## RMS - RMS detection



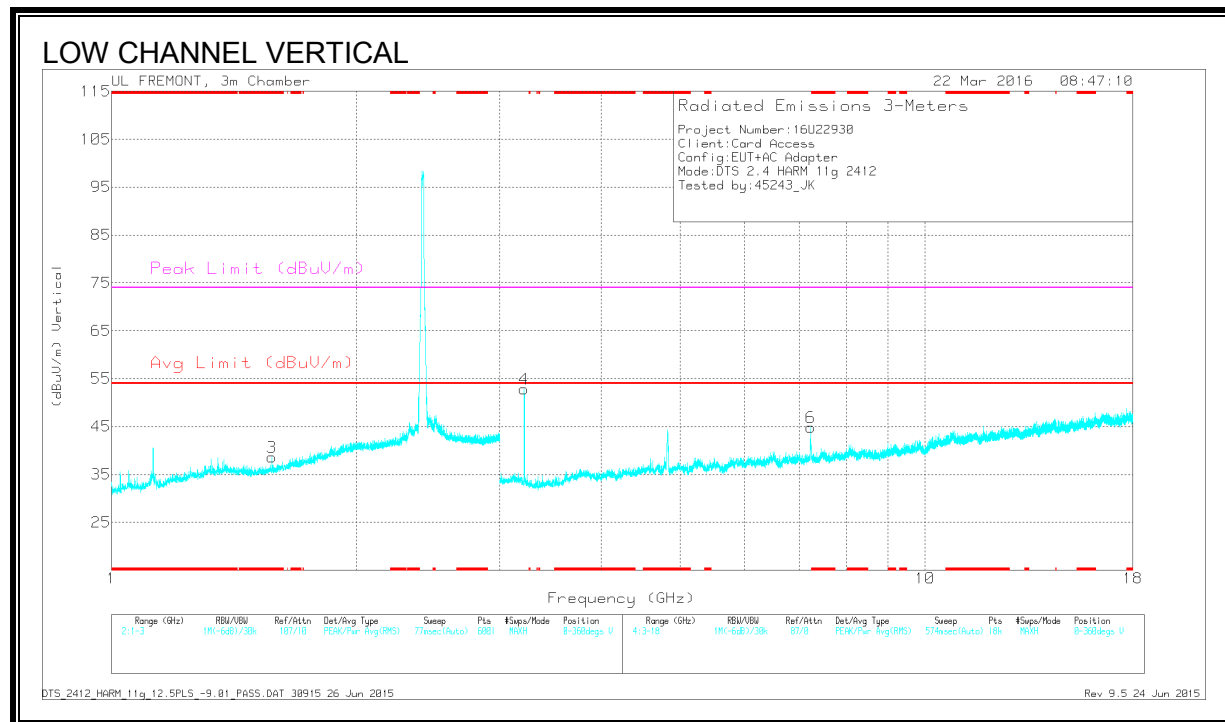
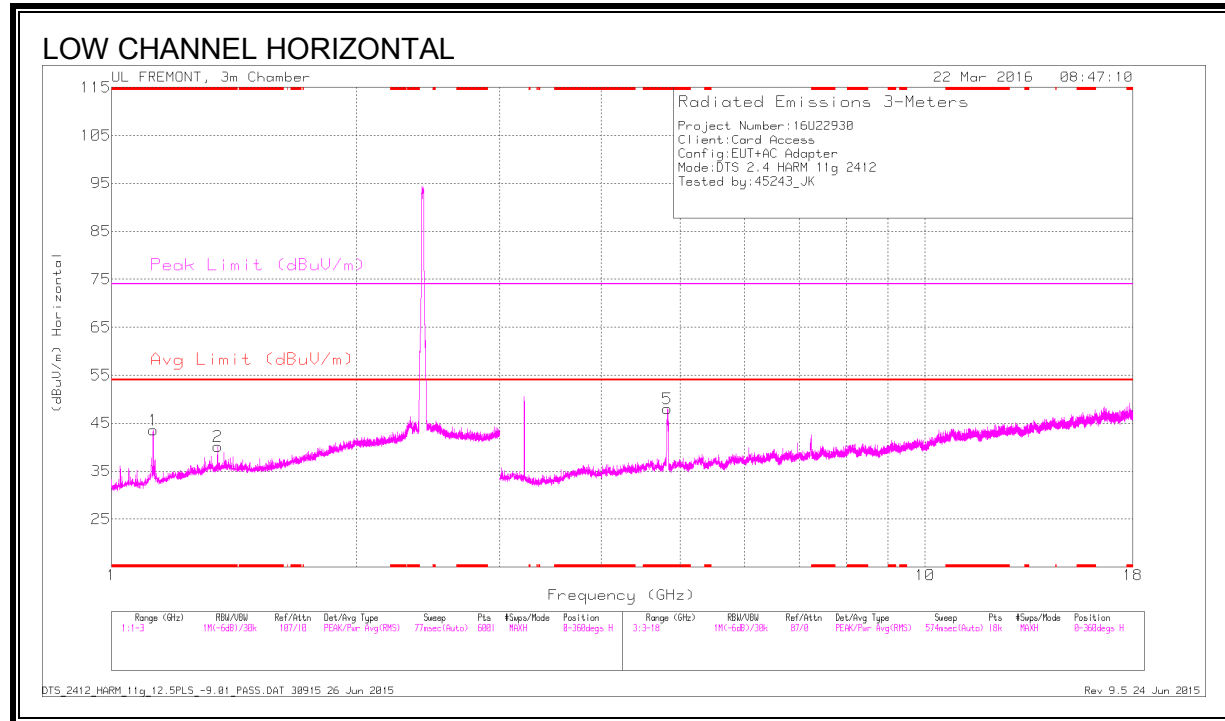
## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Fit r/Pad (db) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 55.8                 | Pk  | 32.4           | -20                    | 0            | 68.2                       | -                      | -           | 74                  | -5.8           | 258            | 239         | V        |
| 2      | * 2.484         | 57.95                | Pk  | 32.4           | -20                    | 0            | 70.35                      | -                      | -           | 74                  | -3.65          | 258            | 239         | V        |
| 3      | * 2.484         | 40.41                | RMS | 32.4           | -20                    | .16          | 52.97                      | 54                     | -1.03       | -                   | -              | 258            | 239         | V        |
| 4      | * 2.484         | 40.45                | RMS | 32.4           | -20                    | .16          | 53.01                      | 54                     | -.99        | -                   | -              | 258            | 239         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

**HARMONICS AND SPURIOUS EMISSIONS**

Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Filtr /Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-------------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 1.125         | 37.89                | Pk  | 27.9           | -22.2                   | 0            | 43.59                      | -                  | -           | 74                  | -30.41         | 0-360          | 201         | H        |
| 2      | * 1.35          | 32.09                | Pk  | 29             | -20.9                   | 0            | 40.19                      | -                  | -           | 74                  | -33.81         | 0-360          | 100         | H        |
| 3      | * 1.575         | 30.66                | Pk  | 28.1           | -20.1                   | 0            | 38.66                      | -                  | -           | 74                  | -35.34         | 0-360          | 100         | V        |
| 5      | * 4.822         | 43.35                | Pk  | 34.3           | -29.6                   | 0            | 48.05                      | -                  | -           | 74                  | -25.95         | 0-360          | 100         | H        |
| 4      | 3.216           | 51.8                 | Pk  | 33.2           | -32.2                   | 0            | 52.8                       | -                  | -           | -                   | -              | 0-360          | 200         | V        |
| 6      | 7.236           | 35.76                | Pk  | 35.7           | -26.6                   | 0            | 44.86                      | -                  | -           | -                   | -              | 0-360          | 100         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

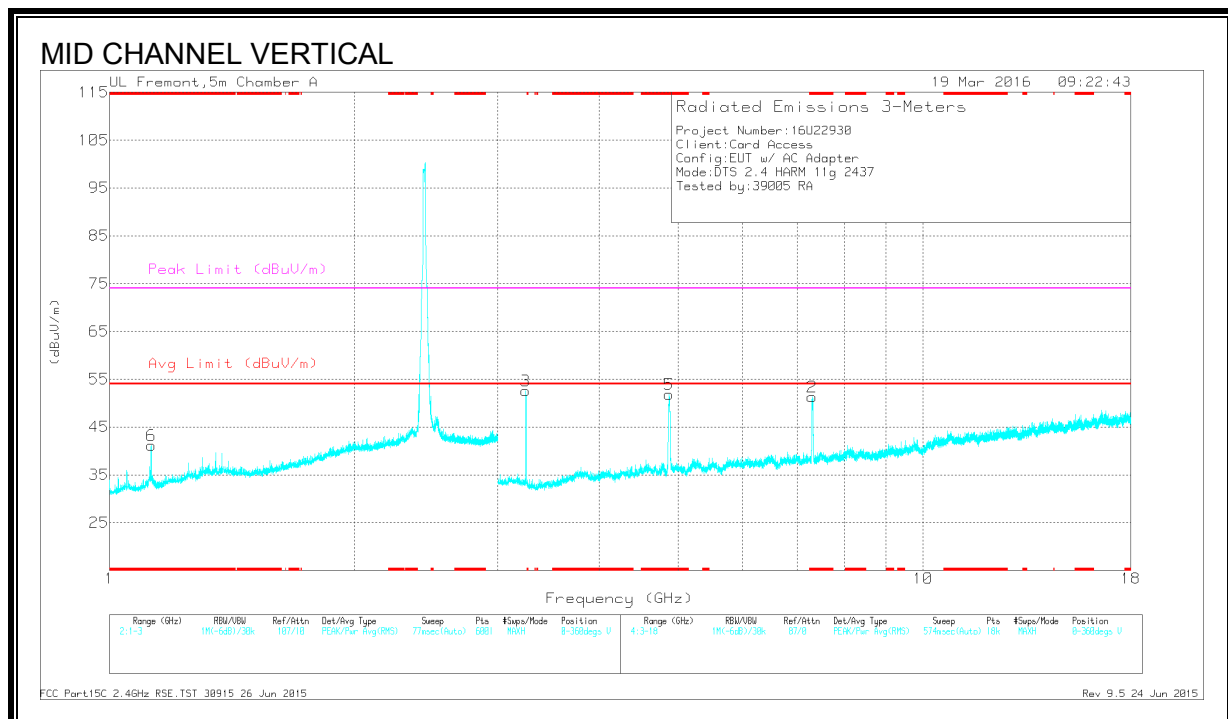
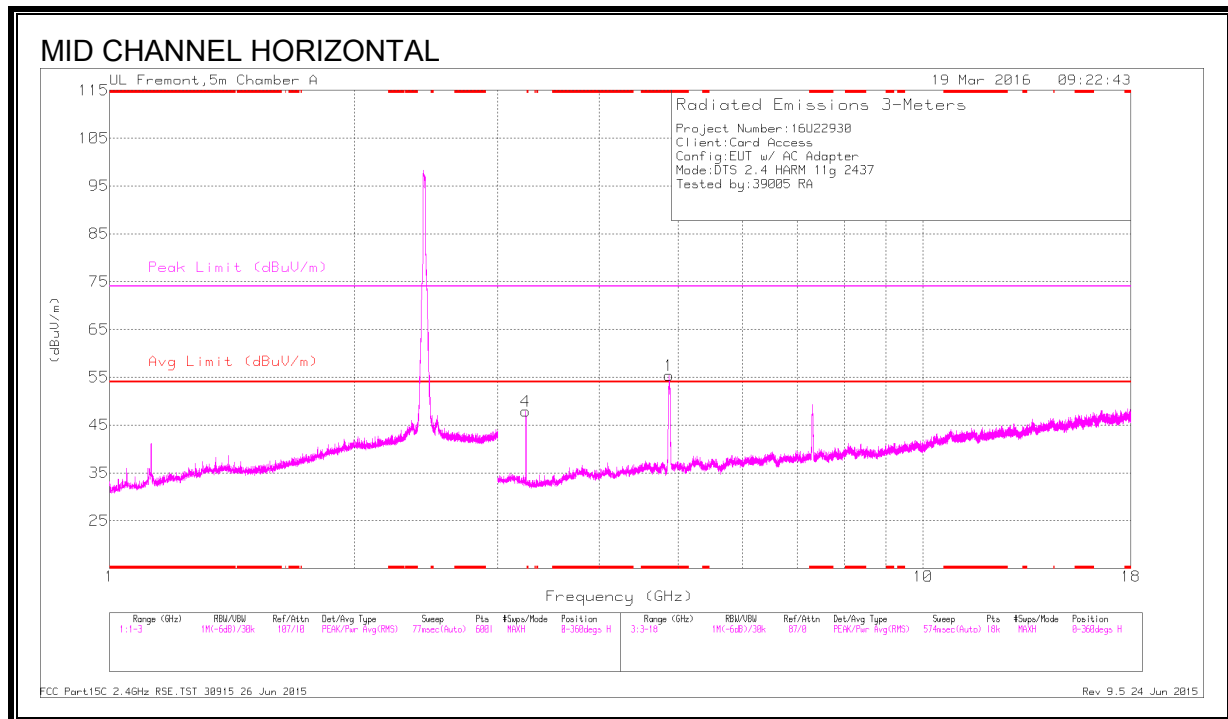
## Radiated Emissions

| Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T346 (db/m) | Amp/Cbl/Filtr /Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|------|----------------|-------------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| * 1.125         | 47.38                | PK2  | 27.9           | -22.2                   | 0            | 53.08                      | -                  | -           | 74                  | -20.92         | 298            | 226         | H        |
| * 1.125         | 34.81                | MAV1 | 27.9           | -22.2                   | .16          | 40.67                      | 54                 | -13.33      | -                   | -              | 298            | 226         | H        |
| * 1.35          | 39.03                | PK2  | 29             | -20.9                   | 0            | 47.13                      | -                  | -           | 74                  | -26.87         | 67             | 276         | H        |
| * 1.35          | 29.55                | MAV1 | 29             | -20.9                   | .16          | 37.81                      | 54                 | -16.19      | -                   | -              | 67             | 276         | H        |
| * 1.575         | 40                   | PK2  | 28.1           | -20.1                   | 0            | 48                         | -                  | -           | 74                  | -26            | 350            | 173         | V        |
| * 1.575         | 26.13                | MAV1 | 28.1           | -20.1                   | .16          | 34.29                      | 54                 | -19.71      | -                   | -              | 350            | 173         | V        |
| * 4.823         | 56.16                | PK2  | 34.3           | -29.6                   | 0            | 60.86                      | -                  | -           | 74                  | -13.14         | 102            | 105         | H        |
| * 4.824         | 40.13                | MAV1 | 34.3           | -29.6                   | .16          | 44.99                      | 54                 | -9.01       | -                   | -              | 102            | 105         | H        |
| * 4.824         | 54.82                | PK2  | 34.3           | -29.6                   | 0            | 59.52                      | -                  | -           | 74                  | -14.48         | 65             | 167         | H        |
| * 4.824         | 48.04                | MAV1 | 34.3           | -29.6                   | .16          | 52.9                       | 54                 | -1.1        | -                   | -              | 65             | 167         | H        |
| 3.216           | 53.83                | PK2  | 33.2           | -32.2                   | 0            | 54.83                      | -                  | -           | 74                  | -19.17         | 338            | 139         | V        |
| 3.216           | 53.93                | PK2  | 33.2           | -32.2                   | 0            | 54.93                      | -                  | -           | 74                  | -19.07         | 338            | 139         | V        |
| 7.236           | 45.81                | PK2  | 35.7           | -26.6                   | 0            | 54.91                      | -                  | -           | 74                  | -19.09         | 165            | 110         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Filtr /Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-------------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 6      | * 1.125         | 35.51                | Pk  | 27.9           | -22.2                   | 0            | 41.21                      | -                  | -           | 74                  | -32.79         | 0-360          | 100         | V        |
| 1      | * 4.874         | 50.34                | Pk  | 34.3           | -29.3                   | 0            | 55.34                      | -                  | -           | 74                  | -18.66         | 0-360          | 100         | H        |
| 2      | * 7.303         | 42.2                 | Pk  | 35.7           | -26.6                   | 0            | 51.3                       | -                  | -           | 74                  | -22.7          | 0-360          | 100         | V        |
| 5      | * 4.874         | 46.79                | Pk  | 34.3           | -29.3                   | 0            | 51.79                      | -                  | -           | 74                  | -22.21         | 0-360          | 100         | V        |
| 4      | 3.249           | 47.37                | Pk  | 33             | -32.5                   | 0            | 47.87                      | -                  | -           | -                   | -              | 0-360          | 100         | H        |
| 3      | 3.249           | 52.13                | Pk  | 33             | -32.5                   | 0            | 52.63                      | -                  | -           | -                   | -              | 0-360          | 200         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

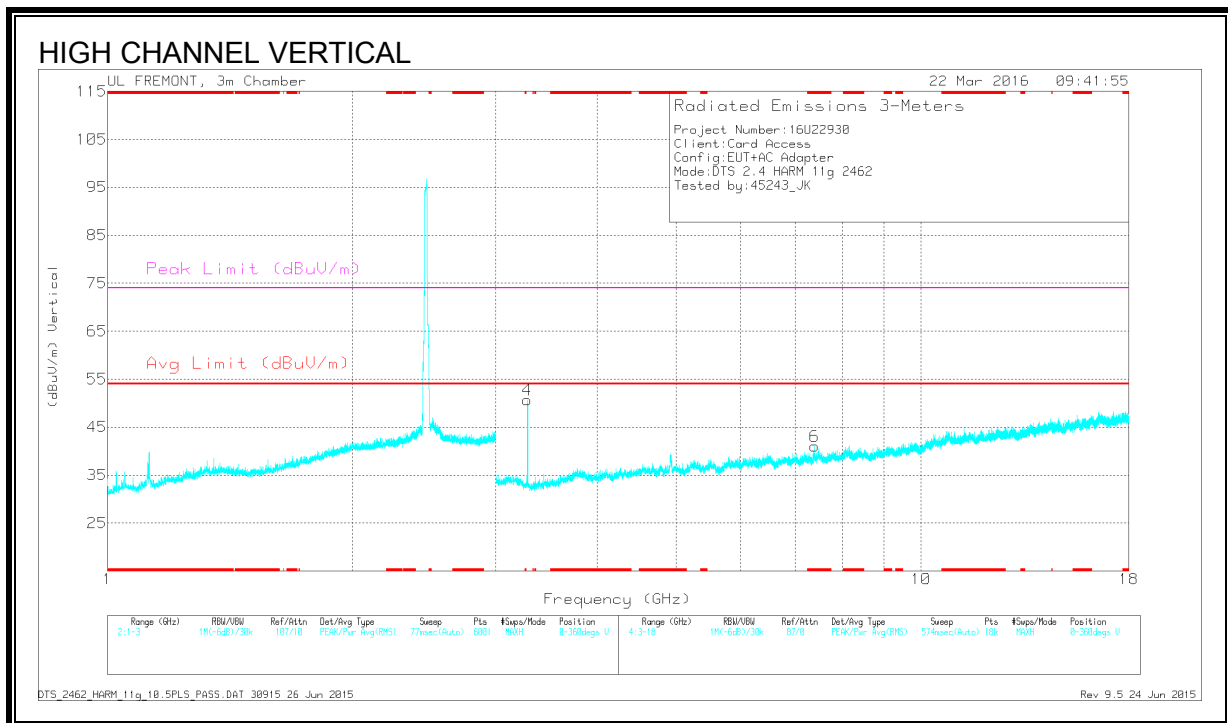
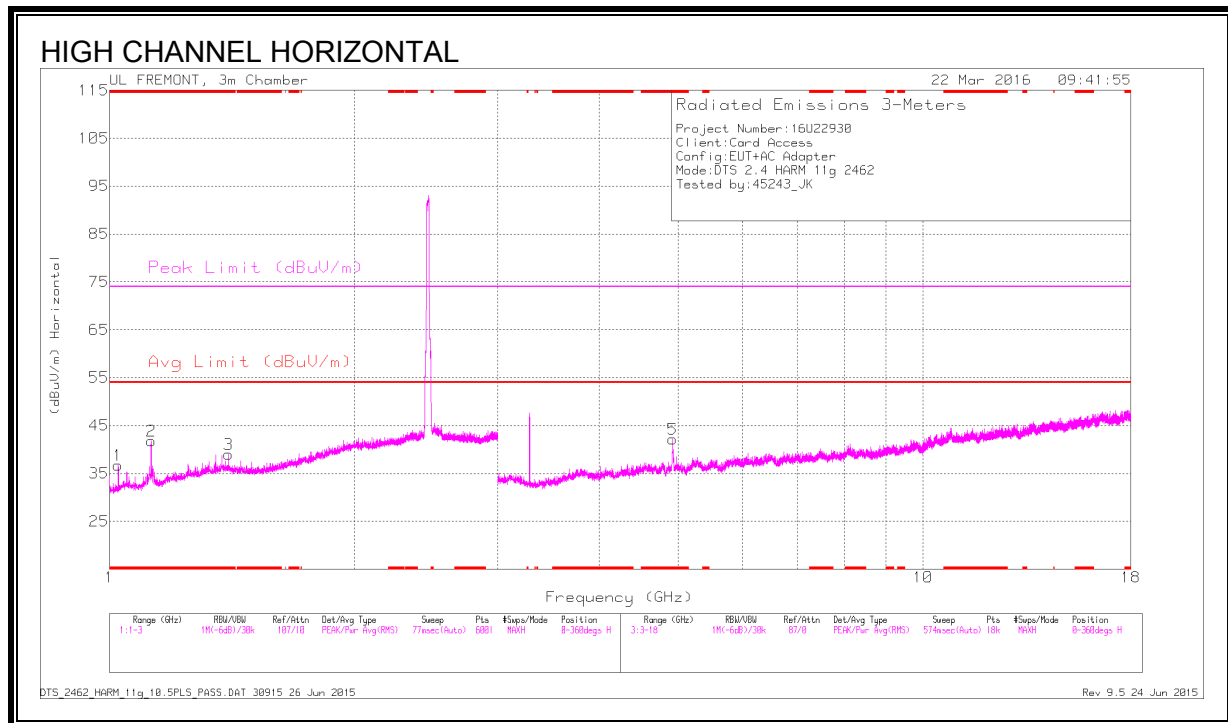
## Radiated Emissions

| Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T346 (db/m) | Amp/Cbl/Filtr /Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|------|----------------|-------------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| * 1.125         | 39.09                | PK2  | 27.9           | -22.2                   | 0            | 44.79                      | -                  | -           | 74                  | -29.21         | 72             | 100         | V        |
| * 1.125         | 33.12                | MAV1 | 27.9           | -22.2                   | .16          | 38.98                      | 54                 | -15.02      | -                   | -              | 72             | 100         | V        |
| * 4.872         | 54.53                | PK2  | 34.3           | -29.3                   | 0            | 59.53                      | -                  | -           | 74                  | -14.47         | 200            | 102         | H        |
| * 4.874         | 46.06                | MAV1 | 34.3           | -29.3                   | .16          | 51.22                      | 54                 | -2.78       | -                   | -              | 200            | 102         | H        |
| * 4.874         | 53.37                | PK2  | 34.3           | -29.3                   | 0            | 58.37                      | -                  | -           | 74                  | -15.63         | 192            | 105         | H        |
| * 4.874         | 46.23                | MAV1 | 34.3           | -29.3                   | .16          | 51.39                      | 54                 | -2.61       | -                   | -              | 192            | 105         | H        |
| * 7.309         | 46.15                | PK2  | 35.7           | -26.6                   | 0            | 55.25                      | -                  | -           | 74                  | -18.75         | 253            | 106         | V        |
| * 7.308         | 38.88                | MAV1 | 35.7           | -26.6                   | .16          | 48.14                      | 54                 | -5.86       | -                   | -              | 253            | 106         | V        |
| * 4.874         | 49.1                 | PK2  | 34.3           | -29.3                   | 0            | 54.1                       | -                  | -           | 74                  | -19.9          | 185            | 103         | V        |
| * 4.873         | 42.09                | MAV1 | 34.3           | -29.3                   | .16          | 47.25                      | 54                 | -6.75       | -                   | -              | 185            | 103         | V        |
| 3.249           | 49.25                | PK2  | 33             | -32.5                   | 0            | 49.75                      | -                  | -           | 74                  | -24.25         | 156            | 107         | H        |
| 3.249           | 53.11                | PK2  | 33             | -32.5                   | 0            | 53.61                      | -                  | -           | 74                  | -20.39         | 71             | 231         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

# Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Filtr /Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-------------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 1.025         | 32.26                | Pk  | 27.6           | -23.2                   | 0            | 36.66                      | -                  | -           | 74                  | -37.34         | 0-360          | 201         | H        |
| 2      | * 1.125         | 36.12                | Pk  | 27.9           | -22.2                   | 0            | 41.82                      | -                  | -           | 74                  | -32.18         | 0-360          | 201         | H        |
| 3      | * 1.4           | 30.72                | Pk  | 29             | -20.7                   | 0            | 39.02                      | -                  | -           | 74                  | -34.98         | 0-360          | 201         | H        |
| 5      | * 4.924         | 37.22                | Pk  | 34.3           | -29.3                   | 0            | 42.22                      | -                  | -           | 74                  | -31.78         | 0-360          | 100         | H        |
| 6      | * 7.393         | 30.97                | Pk  | 35.7           | -25.6                   | 0            | 41.07                      | -                  | -           | 74                  | -32.93         | 0-360          | 200         | V        |
| 4      | 3.282           | 50.58                | Pk  | 32.8           | -32.7                   | 0            | 50.68                      | -                  | -           | -                   | -              | 0-360          | 200         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

# Radiated Emissions

| Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T346 (db/m) | Amp/Cbl/Filtr /Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|------|----------------|-------------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| * 1.025         | 38.48                | PK2  | 27.6           | -23.2                   | 0            | 42.88                      | -                  | -           | 74                  | -31.12         | 301            | 203         | H        |
| * 1.025         | 30.11                | MAV1 | 27.6           | -23.2                   | .16          | 34.67                      | 54                 | -19.33      | -                   | -              | 301            | 203         | H        |
| * 1.125         | 45.63                | PK2  | 27.9           | -22.2                   | 0            | 51.33                      | -                  | -           | 74                  | -22.67         | 285            | 208         | H        |
| * 1.125         | 32.85                | MAV1 | 27.9           | -22.2                   | .16          | 38.71                      | 54                 | -15.29      | -                   | -              | 285            | 208         | H        |
| * 1.4           | 37.44                | PK2  | 29             | -20.7                   | 0            | 45.74                      | -                  | -           | 74                  | -28.26         | 83             | 257         | H        |
| * 1.4           | 26.88                | MAV1 | 29             | -20.7                   | .16          | 35.34                      | 54                 | -18.66      | -                   | -              | 83             | 257         | H        |
| * 4.923         | 48.03                | PK2  | 34.3           | -29.3                   | 0            | 53.03                      | -                  | -           | 74                  | -20.97         | 100            | 115         | H        |
| * 4.924         | 34.06                | MAV1 | 34.3           | -29.3                   | .16          | 39.22                      | 54                 | -14.78      | -                   | -              | 100            | 115         | H        |
| * 4.924         | 54.17                | PK2  | 34.3           | -29.3                   | 0            | 59.17                      | -                  | -           | 74                  | -14.83         | 260            | 103         | H        |
| * 4.924         | 46.77                | MAV1 | 34.3           | -29.3                   | .16          | 51.93                      | 54                 | -2.07       | -                   | -              | 260            | 103         | H        |
| * 7.393         | 41.68                | PK2  | 35.7           | -25.6                   | 0            | 51.78                      | -                  | -           | 74                  | -22.22         | 329            | 204         | V        |
| * 7.392         | 26.82                | MAV1 | 35.7           | -25.7                   | .16          | 36.98                      | 54                 | -17.02      | -                   | -              | 329            | 204         | V        |
| 3.283           | 53.39                | PK2  | 32.8           | -32.7                   | 0            | 53.49                      | -                  | -           | 74                  | -20.51         | 336            | 187         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

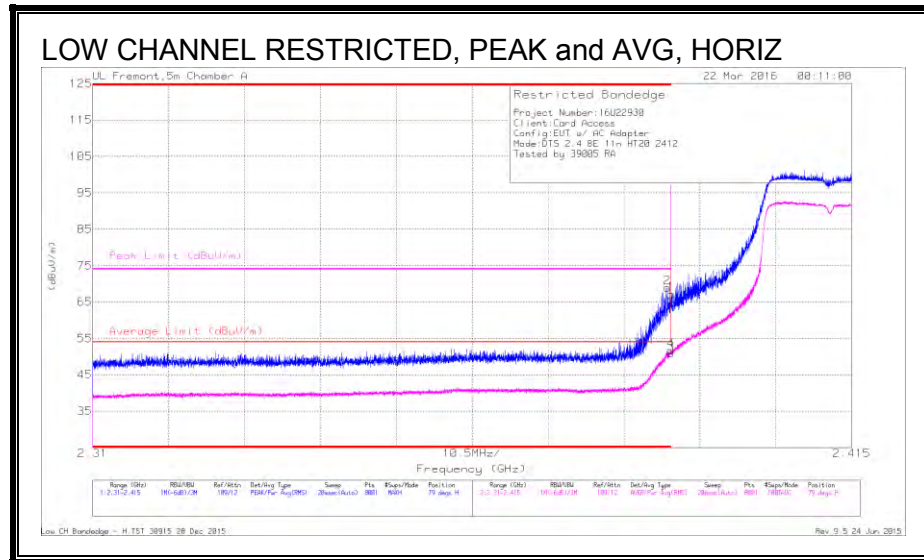
PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average



## 10.5. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 2.4 GHz BAND

### RESTRICTED BANDEDGE (LOW CHANNEL 2412MHz)



### Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (dB/m) | Amp/Cbl/Fitter/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.39          | 54.8                 | Pk  | 32.3           | -19.9                   | 0            | 67.2                       | -                      | -           | 74                  | -6.8           | 79             | 314         | H        |
| 2      | * 2.39          | 56.51                | Pk  | 32.3           | -19.9                   | 0            | 68.91                      | -                      | -           | 74                  | -5.09          | 79             | 314         | H        |
| 3      | * 2.39          | 38.38                | RMS | 32.3           | -19.9                   | .17          | 50.95                      | 54                     | -3.05       | -                   | -              | 79             | 314         | H        |
| 4      | * 2.39          | 39.14                | RMS | 32.3           | -19.9                   | .17          | 51.71                      | 54                     | -2.29       | -                   | -              | 79             | 314         | H        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

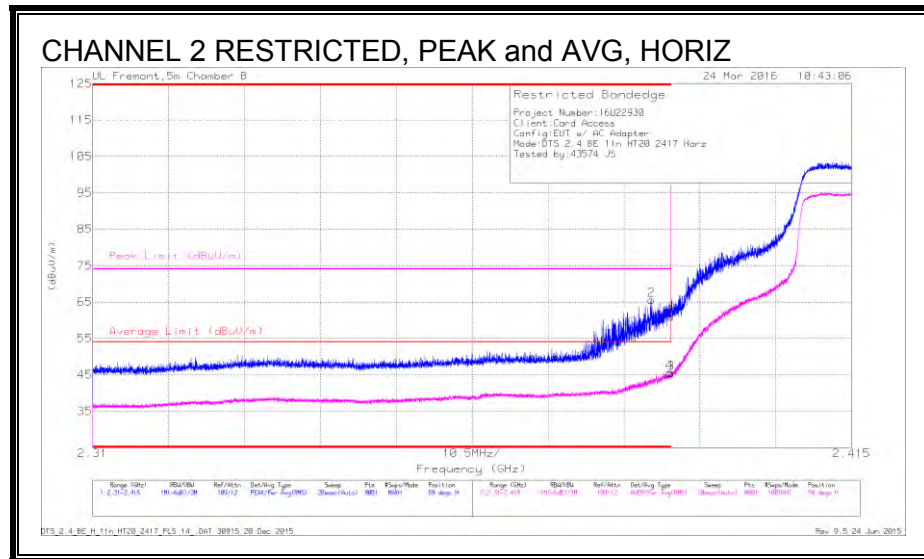
Pk - Peak detector

RMS - RMS detection



| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | A# T346 (db/m) | Amp/Cbl/Fit r/Pad (db) | DC Corr (dB) | Corrected Reading (dBUV/m) | Average Limit (dBUV/m) | Margin (dB) | Peak Limit (dBUV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.39          | 51.38                | Pk  | 32.3           | -19.9                  | 0            | 63.78                      | -                      | -           | 74                  | -10.22         | 3              | 147         | V        |
| 2      | * 2.39          | 58.18                | Pk  | 32.3           | -19.9                  | 0            | 70.58                      | -                      | -           | 74                  | -3.42          | 3              | 147         | V        |
| 3      | * 2.39          | 40.29                | RMS | 32.3           | -19.9                  | .17          | 52.86                      | 54                     | -1.14       | -                   | -              | 3              | 147         | V        |
| 4      | * 2.39          | 40.9                 | RMS | 32.3           | -19.9                  | .17          | 53.47                      | 54                     | - .53       | -                   | -              | 3              | 147         | V        |

## RMS - RMS detection

**RESTRICTED BANDEDGE (CHANNEL 2, 2417MHz)**

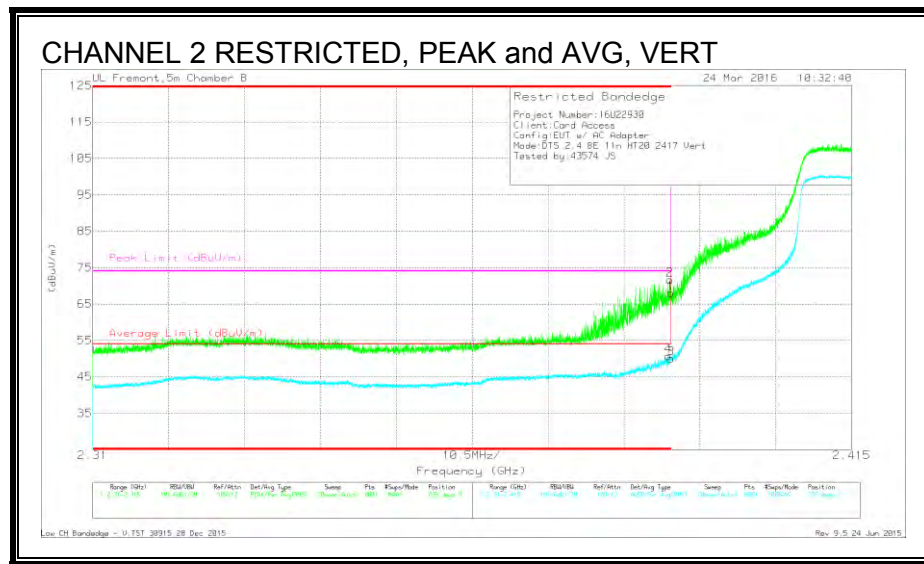
## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T345 (dB/m) | Amp/Cbl/Fit r/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.39          | 51.16                | Pk  | 32.1           | -22.3                  | 0            | 60.96                      | -                      | -           | 74                  | -13.04         | 58             | 225         | H        |
| 2      | * 2.387         | 55.84                | Pk  | 32.1           | -22.4                  | 0            | 65.54                      | -                      | -           | 74                  | -8.46          | 58             | 225         | H        |
| 3      | * 2.39          | 35.44                | RMS | 32.1           | -22.3                  | .17          | 45.41                      | 54                     | -8.59       | -                   | -              | 58             | 225         | H        |
| 4      | * 2.39          | 35.59                | RMS | 32.1           | -22.3                  | .17          | 45.56                      | 54                     | -8.44       | -                   | -              | 58             | 225         | H        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection



## Trace Markers

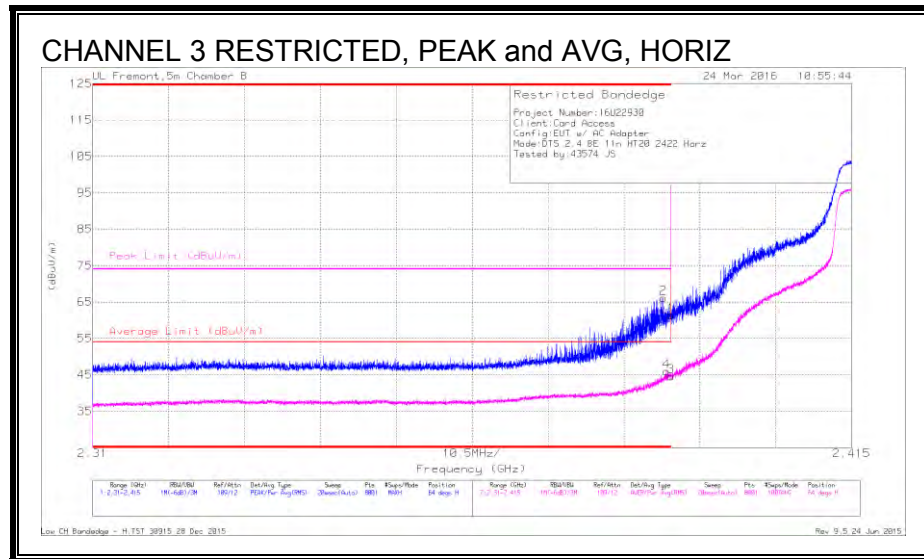
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T345 (dB/m) | Amp/Cbl/Fit r/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.39          | 58.19                | Pk  | 32.1           | -22.3                  | 0            | 67.99                      | -                      | -           | 74                  | -6.01          | 235            | 219         | V        |
| 2      | * 2.39          | 61.82                | Pk  | 32.1           | -22.3                  | 0            | 71.62                      | -                      | -           | 74                  | -2.38          | 235            | 219         | V        |
| 3      | * 2.39          | 40.12                | RMS | 32.1           | -22.3                  | .17          | 50.09                      | 54                     | -3.91       | -                   | -              | 235            | 219         | V        |
| 4      | * 2.39          | 40.74                | RMS | 32.1           | -22.3                  | .17          | 50.71                      | 54                     | -3.29       | -                   | -              | 235            | 219         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

### RESTRICTED BANDEDGE (CHANNEL 3, 2422MHz)



## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T345 (dB/m) | Amp/Cbl/Ftr r/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.39          | 51.5                 | Pk  | 32.1           | -22.3                  | 0            | 61.3                       | -                      | -           | 74                  | -12.7          | 64             | 216         | H        |
| 2      | * 2.389         | 56.32                | Pk  | 32.1           | -22.3                  | 0            | 66.12                      | -                      | -           | 74                  | -7.88          | 64             | 216         | H        |
| 3      | * 2.39          | 34.63                | RMS | 32.1           | -22.3                  | .17          | 44.6                       | 54                     | -9.4        | -                   | -              | 64             | 216         | H        |
| 4      | * 2.389         | 35.96                | RMS | 32.1           | -22.3                  | .17          | 45.93                      | 54                     | -8.07       | -                   | -              | 64             | 216         | H        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

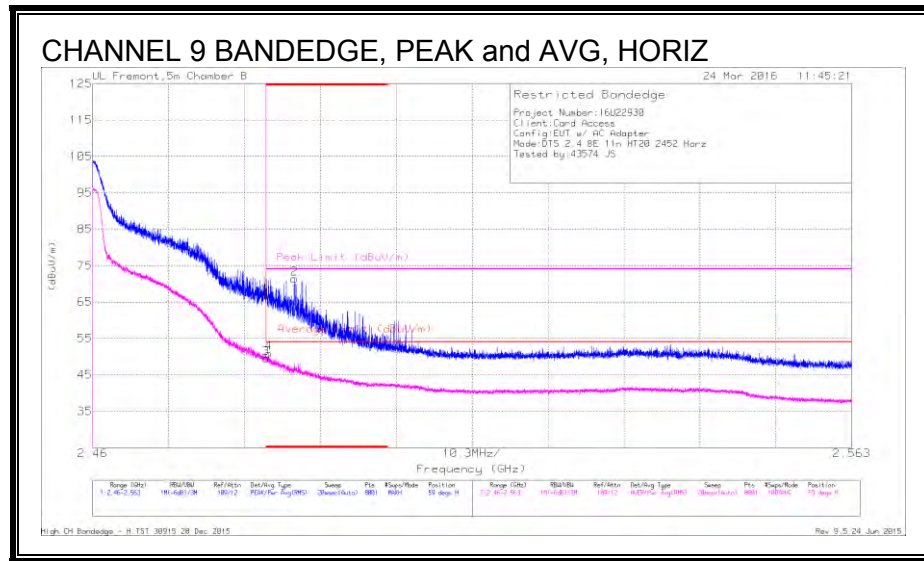
## RMS - RMS detection



| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | At T345 (dB/m) | Amp/Cbl/Filt r/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.39          | 56.43                | Pk  | 32.1           | -22.3                   | 0            | 66.23                      | -                      | -           | 74                  | -7.77          | 211            | 223         | V        |
| 2      | * 2.388         | 60.32                | Pk  | 32.1           | -22.4                   | 0            | 70.02                      | -                      | -           | 74                  | -3.98          | 211            | 223         | V        |
| 3      | * 2.39          | 36.86                | RMS | 32.1           | -22.3                   | .17          | 46.83                      | 54                     | -7.17       | -                   | -              | 211            | 223         | V        |
| 4      | * 2.39          | 39.34                | RMS | 32.1           | -22.3                   | .17          | 49.31                      | 54                     | -4.69       | -                   | -              | 211            | 223         | V        |

## RMS - RMS detection

**AUTHORIZED BANDEGE (CHANNEL 9, 2452MHz)**



**Trace Markers**

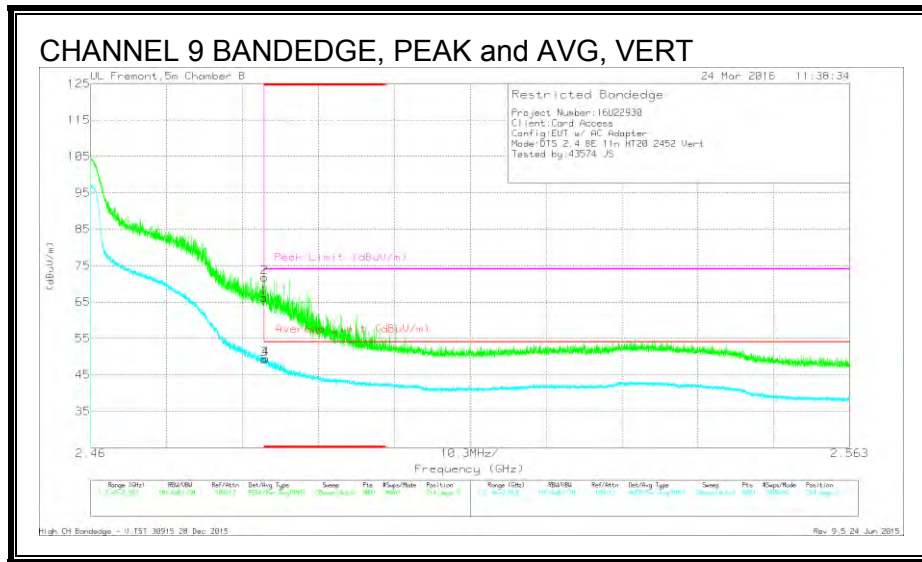
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T345 (dB/m) | Amp/Cbl/Fit r/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 56.84                | Pk  | 32.3           | -22.3                  | 0            | 66.84                      | -                      | -           | 74                  | -7.16          | 59             | 242         | H        |
| 2      | * 2.487         | 61.49                | Pk  | 32.3           | -22.4                  | 0            | 71.39                      | -                      | -           | 74                  | -2.61          | 59             | 242         | H        |
| 3      | * 2.484         | 39.4                 | RMS | 32.3           | -22.3                  | .17          | 49.57                      | 54                     | -4.43       | -                   | -              | 59             | 242         | H        |
| 4      | * 2.484         | 40.8                 | RMS | 32.3           | -22.3                  | .17          | 50.97                      | 54                     | -3.03       | -                   | -              | 59             | 242         | H        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection





## Trace Markers

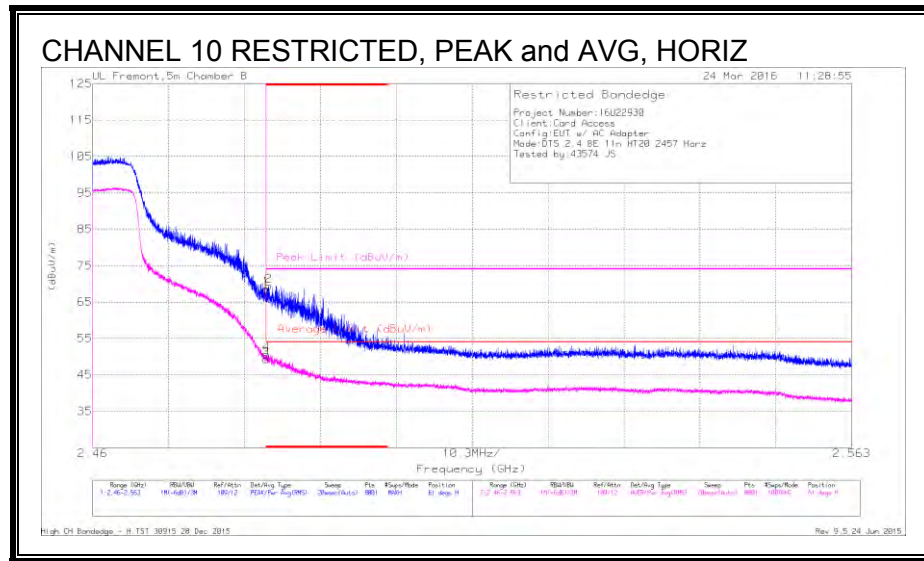
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T345 (dB/m) | Amp/Cbl/Fit r/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 56.18                | Pk  | 32.3           | -22.3                  | 0            | 66.18                      | -                      | -           | 74                  | -7.82          | 214            | 237         | V        |
| 2      | * 2.484         | 61.72                | Pk  | 32.3           | -22.3                  | 0            | 71.72                      | -                      | -           | 74                  | -2.28          | 214            | 237         | V        |
| 3      | * 2.484         | 39.14                | RMS | 32.3           | -22.3                  | .17          | 49.31                      | 54                     | -4.69       | -                   | -              | 214            | 237         | V        |
| 4      | * 2.484         | 39.25                | RMS | 32.3           | -22.3                  | .17          | 49.42                      | 54                     | -4.58       | -                   | -              | 214            | 237         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection



**RESTRICTED BANDEDGE (CHANNEL 10 2457MHz)**

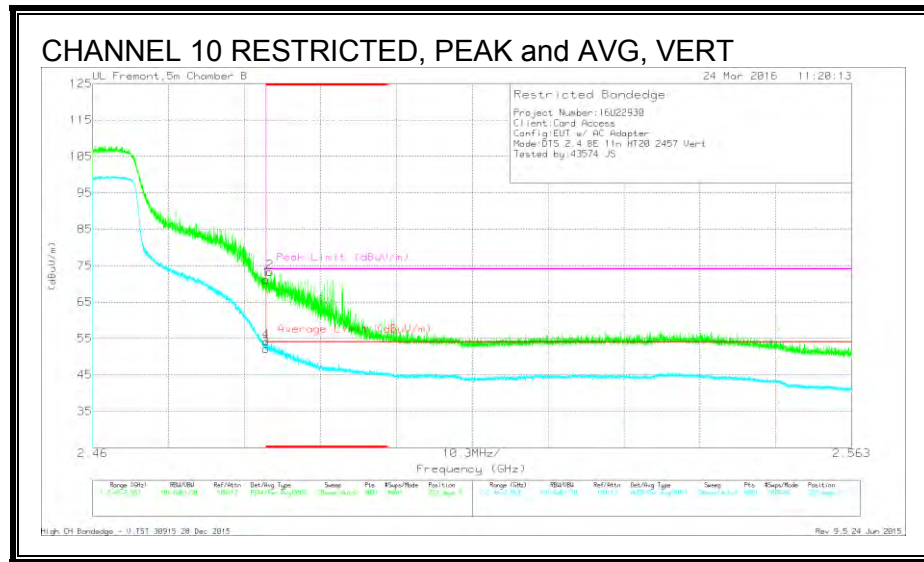
## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T345 (dB/m) | Amp/Cbl/Fit r/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 58.7                 | Pk  | 32.3           | -22.3                  | 0            | 68.7                       | -                      | -           | 74                  | -5.3           | 61             | 187         | H        |
| 2      | * 2.484         | 59.43                | Pk  | 32.3           | -22.3                  | 0            | 69.43                      | -                      | -           | 74                  | -4.57          | 61             | 187         | H        |
| 3      | * 2.484         | 39.17                | RMS | 32.3           | -22.3                  | .17          | 49.34                      | 54                     | -4.66       | -                   | -              | 61             | 187         | H        |
| 4      | * 2.484         | 40.34                | RMS | 32.3           | -22.3                  | .17          | 50.51                      | 54                     | -3.49       | -                   | -              | 61             | 187         | H        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection



## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T345 (dB/m) | Amp/Chl/Fit r/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 61.18                | Pk  | 32.3           | -22.3                  | 0            | 71.18                      | -                      | -           | 74                  | -2.82          | 223            | 231         | V        |
| 2      | * 2.484         | 63.3                 | Pk  | 32.3           | -22.3                  | 0            | 73.3                       | -                      | -           | 74                  | -.7            | 223            | 231         | V        |
| 3      | * 2.484         | 41.93                | RMS | 32.3           | -22.3                  | .17          | 52.1                       | 54                     | -1.9        | -                   | -              | 223            | 231         | V        |
| 4      | * 2.484         | 44.01                | RMS | 32.3           | -22.3                  | .17          | 53.97                      | 54                     | .03         | -                   | -              | 223            | 231         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

# HIGH CHANNEL RESTRICTED, PEAK and AVG, HORIZ

UL Fremont, 5m Chamber A

22 Mar 2016 00:32:15

Restricted Bondedge

Project Number: 16U22938

Client: Card Access

Config: EUT w/ HC Adapter

Model: OTS 2.4 BE 11m HT20 2462

Tested by: 38085 RA

Peak Limit (dBuV/m)

Average Limit (dBuV/m)

Frequency (GHz)

10.3MHz

2.563

| Range (GHz) | Res (dB) | Ref (dB) | Setting Type  | Sample Rate (Hz) | Flt (dB) | Exp/Mode | Position |
|-------------|----------|----------|---------------|------------------|----------|----------|----------|
| 1.2-2.563   | 30.1     | 161.4    | ENF (For Avg) | 38085            | 30.1     | ENF      | Page 1   |

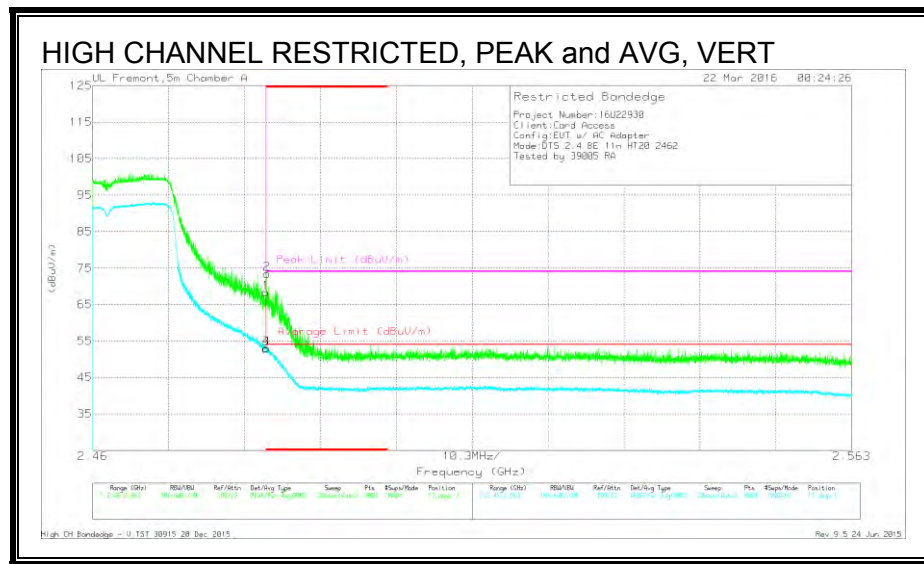
| Range (GHz) | Res (dB) | Ref (dB) | Setting Type  | Sample Rate (Hz) | Flt (dB) | Exp/Mode | Position |
|-------------|----------|----------|---------------|------------------|----------|----------|----------|
| 1.2-2.563   | 30.1     | 161.4    | ENF (For Avg) | 38085            | 30.1     | ENF      | Page 2   |

High Ch Bondedge - R 151 30915 28 Dec 2015

Rev: 9.5 24 Jun 2015

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Filt r/Pad (dB) | DC Corr (dB) | Corrected Reading (dBUV/m) | Average Limit (dBUV/m) | Margin (dB) | Peak Limit (dBUV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 51.27                | Pk  | 32.4           | -20                     | 0            | 63.67                      | -                      | -           | 74                  | -10.33         | 91             | 376         | H        |
| 2      | * 2.485         | 54.51                | Pk  | 32.4           | -20                     | 0            | 66.91                      | -                      | -           | 74                  | -7.09          | 91             | 376         | H        |
| 3      | * 2.484         | 38.23                | RMS | 32.4           | -20                     | .17          | 50.8                       | 54                     | -3.2        | -                   | -              | 91             | 376         | H        |
| 4      | * 2.484         | 38.28                | RMS | 32.4           | -20                     | .17          | 50.85                      | 54                     | -3.15       | -                   | -              | 91             | 376         | H        |

## RMS - RMS detection



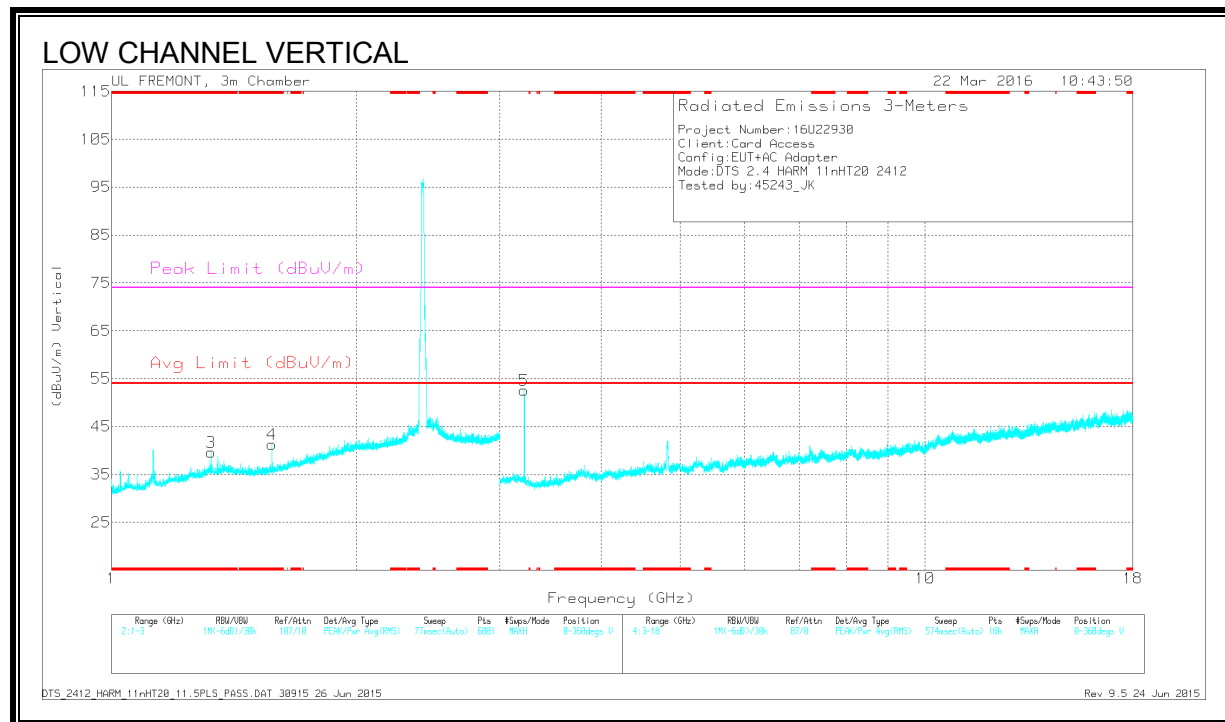
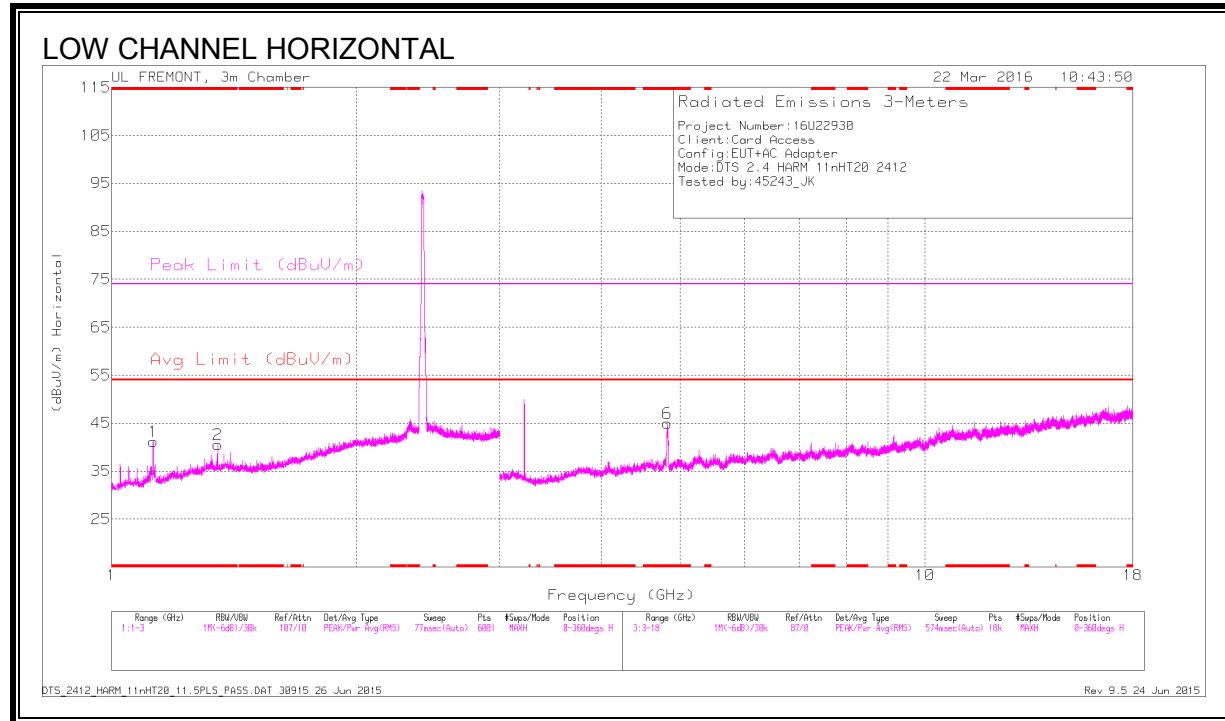
## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Fit r/Pad (db) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 55.88                | Pk  | 32.4           | -20                    | 0            | 68.28                      | -                      | -           | 74                  | -5.72          | 17             | 307         | V        |
| 2      | * 2.484         | 60.99                | Pk  | 32.4           | -20                    | 0            | 73.39                      | -                      | -           | 74                  | -6.1           | 17             | 307         | V        |
| 3      | * 2.484         | 40.38                | RMS | 32.4           | -20                    | .17          | 52.95                      | 54                     | -1.05       | -                   | -              | 17             | 307         | V        |
| 4      | * 2.484         | 40.42                | RMS | 32.4           | -20                    | .17          | 52.99                      | 54                     | -1.01       | -                   | -              | 17             | 307         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

**HARMONICS AND SPURIOUS EMISSIONS**

Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Ftr /Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 1.125         | 35.5                 | Pk  | 27.9           | -22.2                 | 0            | 41.2                       | -                  | -           | 74                  | -32.8          | 0-360          | 201         | H        |
| 2      | * 1.35          | 32.48                | Pk  | 29             | -20.9                 | 0            | 40.58                      | -                  | -           | 74                  | -33.42         | 0-360          | 100         | H        |
| 3      | * 1.325         | 31.6                 | Pk  | 29             | -21                   | 0            | 39.6                       | -                  | -           | 74                  | -34.4          | 0-360          | 100         | V        |
| 4      | * 1.575         | 33.29                | Pk  | 28.1           | -20.1                 | 0            | 41.29                      | -                  | -           | 74                  | -32.71         | 0-360          | 100         | V        |
| 6      | * 4.823         | 40.32                | Pk  | 34.3           | -29.6                 | 0            | 45.02                      | -                  | -           | 74                  | -28.98         | 0-360          | 100         | H        |
| 5      | 3.216           | 51.61                | Pk  | 33.2           | -32.2                 | 0            | 52.61                      | -                  | -           | -                   | -              | 0-360          | 200         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

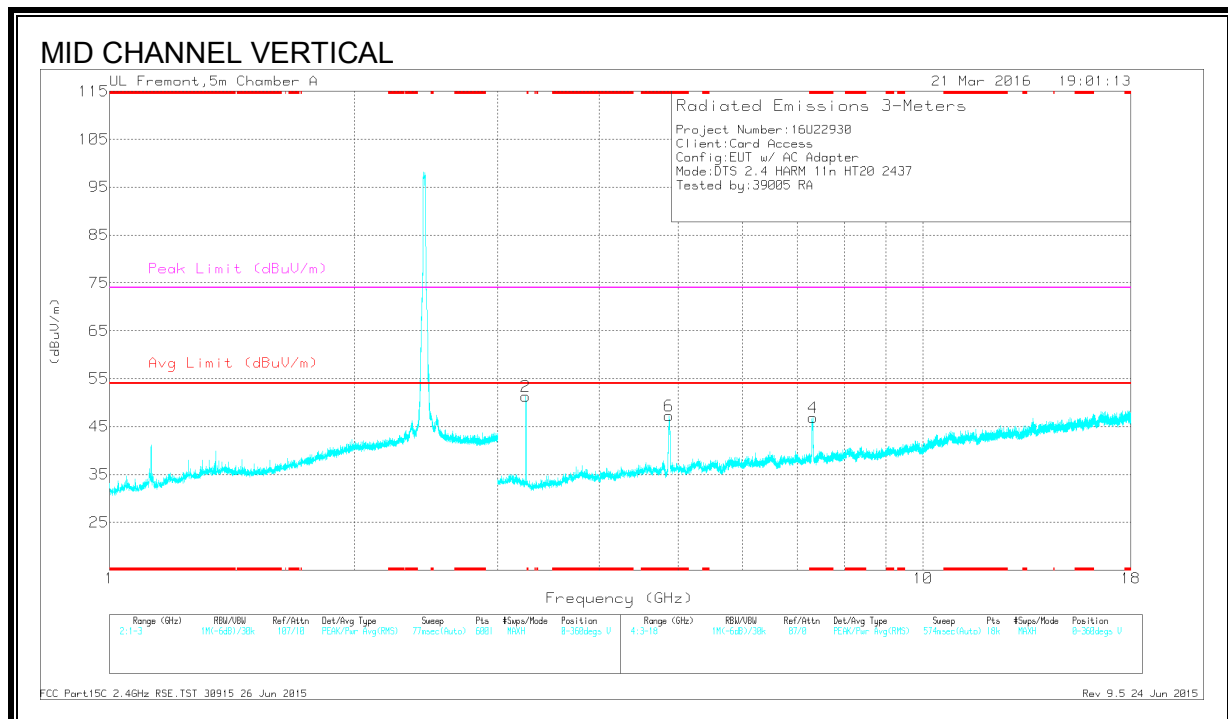
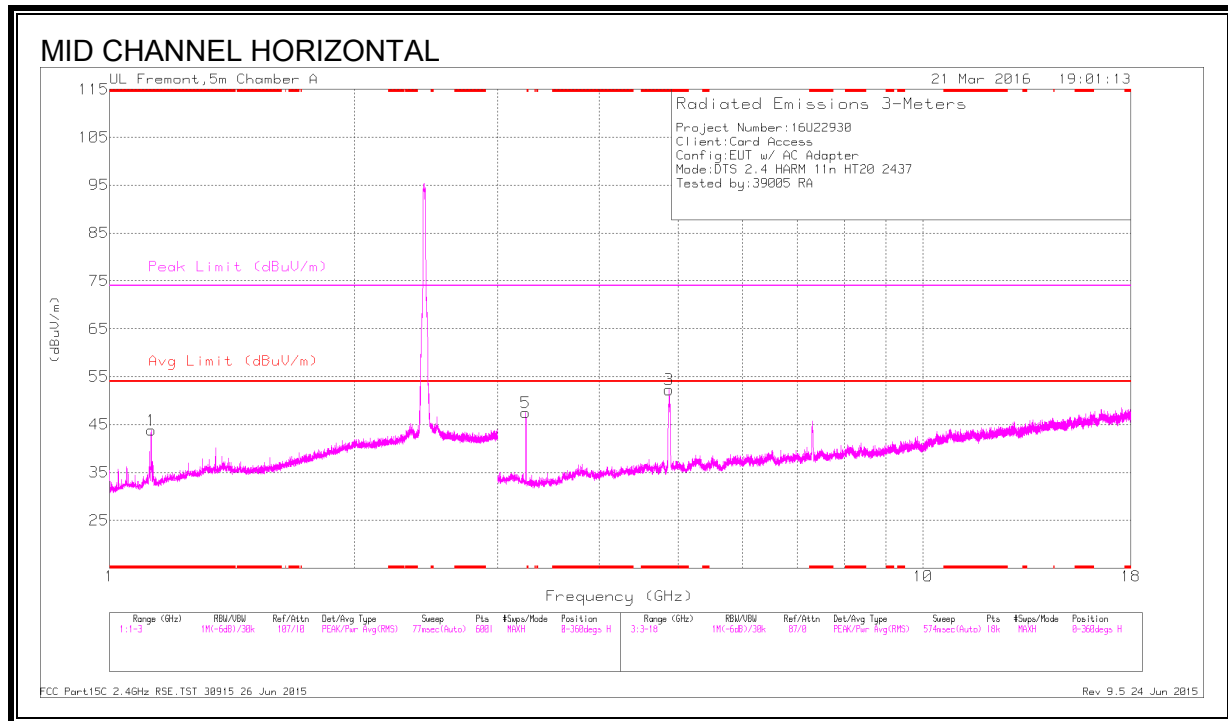
## Radiated Emissions

| Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T346 (db/m) | Amp/Cbl/Ftr /Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|------|----------------|-----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| * 1.125         | 43.52                | PK2  | 27.9           | -22.2                 | 0            | 49.22                      | -                  | -           | 74                  | -24.78         | 73             | 353         | H        |
| * 1.125         | 30.36                | MAV1 | 27.9           | -22.2                 | .17          | 36.23                      | 54                 | -17.77      | -                   | -              | 73             | 353         | H        |
| * 1.35          | 39.43                | PK2  | 29             | -20.9                 | 0            | 47.53                      | -                  | -           | 74                  | -26.47         | 78             | 271         | H        |
| * 1.35          | 30.06                | MAV1 | 29             | -20.9                 | .17          | 38.33                      | 54                 | -15.67      | -                   | -              | 78             | 271         | H        |
| * 1.325         | 38.07                | PK2  | 29             | -21                   | 0            | 46.07                      | -                  | -           | 74                  | -27.93         | 254            | 110         | V        |
| * 1.325         | 27.89                | MAV1 | 29             | -21                   | .17          | 36.06                      | 54                 | -17.94      | -                   | -              | 254            | 110         | V        |
| * 1.575         | 40.79                | PK2  | 28.1           | -20.1                 | 0            | 48.79                      | -                  | -           | 74                  | -25.21         | 320            | 104         | V        |
| * 1.575         | 27.42                | MAV1 | 28.1           | -20.1                 | .17          | 35.59                      | 54                 | -18.41      | -                   | -              | 320            | 104         | V        |
| * 4.824         | 54.69                | PK2  | 34.3           | -29.6                 | 0            | 59.39                      | -                  | -           | 74                  | -14.61         | 103            | 115         | H        |
| * 4.824         | 38.06                | MAV1 | 34.3           | -29.6                 | .17          | 42.93                      | 54                 | -11.07      | -                   | -              | 103            | 115         | H        |
| * 4.824         | 52.07                | PK2  | 34.3           | -29.6                 | 0            | 56.77                      | -                  | -           | 74                  | -17.23         | 80             | 120         | H        |
| * 4.824         | 45.32                | MAV1 | 34.3           | -29.6                 | .17          | 50.19                      | 54                 | -3.81       | -                   | -              | 80             | 120         | H        |
| 3.216           | 53.85                | PK2  | 33.2           | -32.2                 | 0            | 54.85                      | -                  | -           | 74                  | -19.15         | 338            | 157         | V        |
| 3.216           | 53.78                | PK2  | 33.2           | -32.2                 | 0            | 54.78                      | -                  | -           | 74                  | -19.22         | 336            | 217         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

# Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Filtr /Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-------------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 1.125         | 38.12                | Pk  | 27.9           | -22.2                   | 0            | 43.82                      | -                  | -           | 74                  | -30.18         | 0-360          | 100         | H        |
| 3      | * 4.874         | 47.27                | Pk  | 34.3           | -29.3                   | 0            | 52.27                      | -                  | -           | 74                  | -21.73         | 0-360          | 100         | H        |
| 4      | * 7.321         | 37.69                | Pk  | 35.7           | -26.5                   | 0            | 46.89                      | -                  | -           | 74                  | -27.11         | 0-360          | 100         | V        |
| 6      | * 4.872         | 42.23                | Pk  | 34.3           | -29.3                   | 0            | 47.23                      | -                  | -           | 74                  | -26.77         | 0-360          | 100         | V        |
| 5      | 3.249           | 46.98                | Pk  | 33             | -32.5                   | 0            | 47.48                      | -                  | -           | -                   | -              | 0-360          | 100         | H        |
| 2      | 3.249           | 50.87                | Pk  | 33             | -32.5                   | 0            | 51.37                      | -                  | -           | -                   | -              | 0-360          | 200         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

# Radiated Emissions

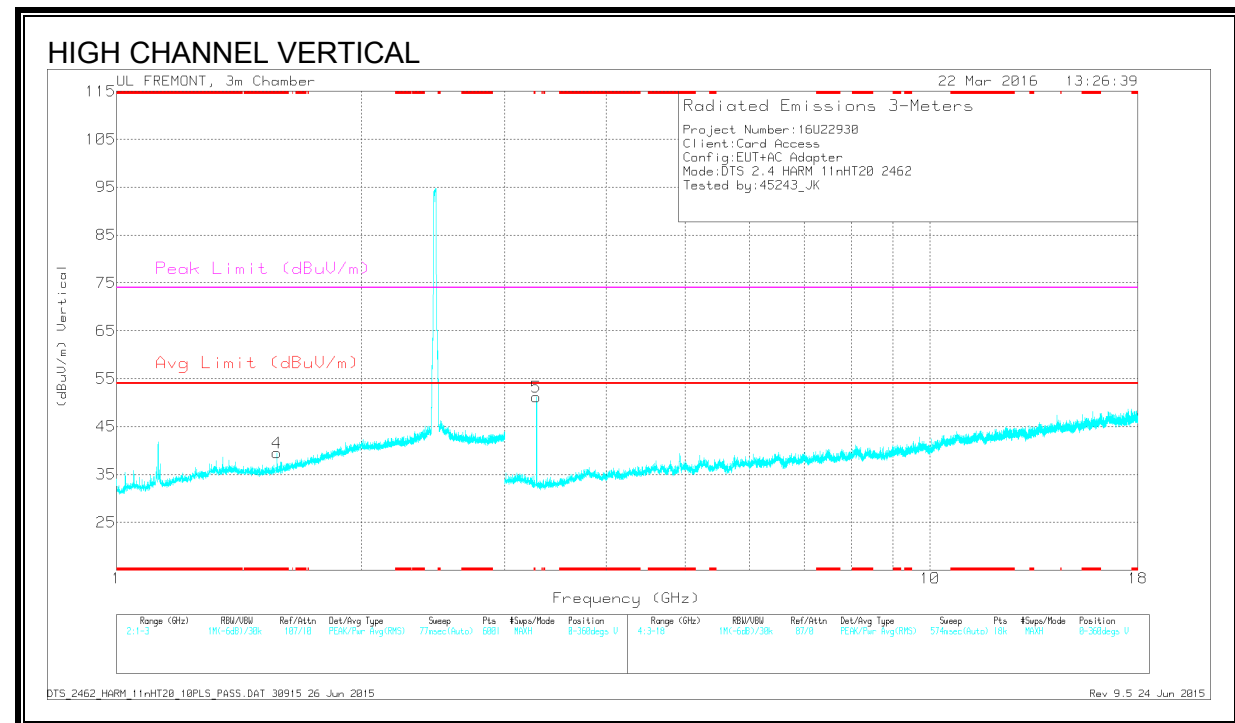
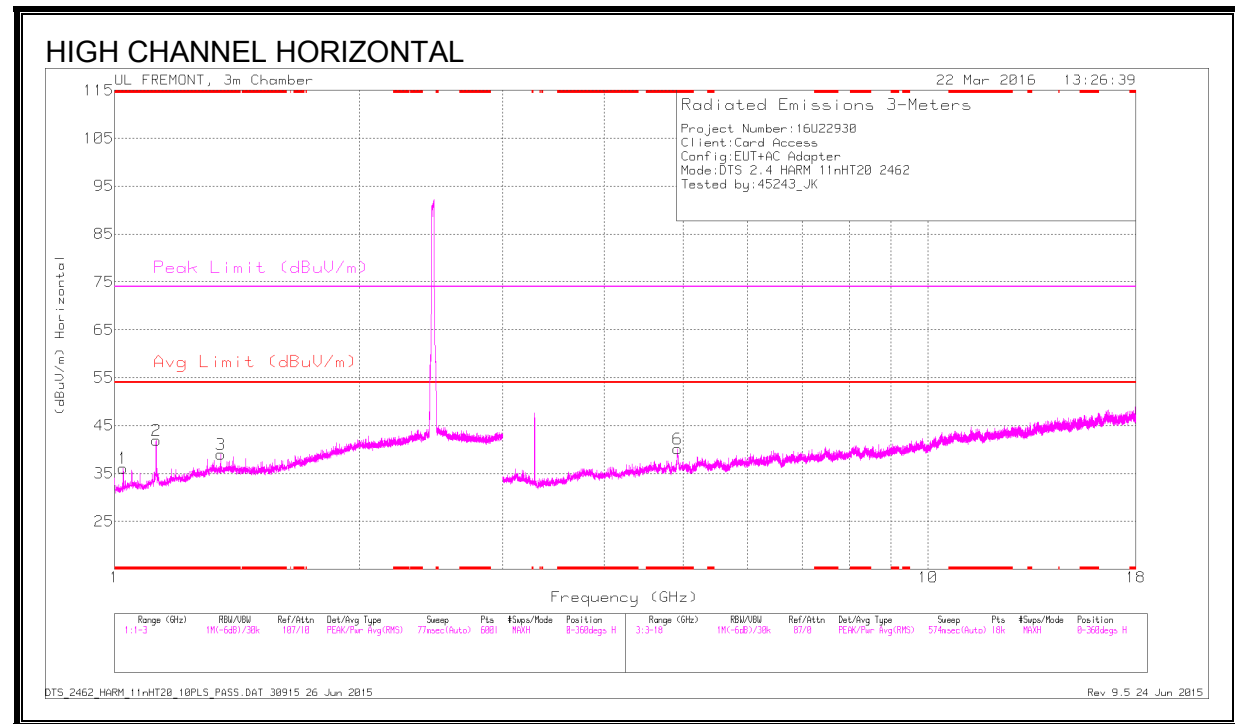
| Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T346 (db/m) | Amp/Cbl/Filtr /Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|------|----------------|-------------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| * 1.125         | 33.7                 | PK2  | 27.9           | -22.2                   | 0            | 39.4                       | -                  | -           | 74                  | -34.6          | 5              | 194         | H        |
| * 1.125         | 26.71                | MAV1 | 27.9           | -22.2                   | .17          | 32.58                      | 54                 | -21.42      | -                   | -              | 5              | 194         | H        |
| * 4.874         | 48.61                | PK2  | 34.3           | -29.3                   | 0            | 53.61                      | -                  | -           | 74                  | -20.39         | 281            | 113         | H        |
| * 4.874         | 41.62                | MAV1 | 34.3           | -29.3                   | .17          | 46.79                      | 54                 | -7.21       | -                   | -              | 281            | 113         | H        |
| * 7.313         | 40.76                | PK2  | 35.7           | -26.6                   | 0            | 49.86                      | -                  | -           | 74                  | -24.14         | 160            | 242         | V        |
| * 7.312         | 33.42                | MAV1 | 35.7           | -26.6                   | .17          | 42.69                      | 54                 | -11.31      | -                   | -              | 160            | 242         | V        |
| * 4.873         | 44.13                | PK2  | 34.3           | -29.3                   | 0            | 49.13                      | -                  | -           | 74                  | -24.87         | 354            | 172         | V        |
| * 4.874         | 36.93                | MAV1 | 34.3           | -29.3                   | .17          | 42.1                       | 54                 | -11.9       | -                   | -              | 354            | 172         | V        |
| 3.249           | 48.45                | PK2  | 33             | -32.5                   | 0            | 48.95                      | -                  | -           | 74                  | -25.05         | 291            | 146         | H        |
| 3.249           | 52.57                | PK2  | 33             | -32.5                   | 0            | 53.07                      | -                  | -           | 74                  | -20.93         | 168            | 263         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average





Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

# Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Filtr /Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-------------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 1.025         | 31.74                | Pk  | 27.6           | -23.2                   | 0            | 36.14                      | -                  | -           | 74                  | -37.86         | 0-360          | 201         | H        |
| 2      | * 1.125         | 36.18                | Pk  | 27.9           | -22.2                   | 0            | 41.88                      | -                  | -           | 74                  | -32.12         | 0-360          | 201         | H        |
| 3      | * 1.35          | 30.95                | Pk  | 29             | -20.9                   | 0            | 39.05                      | -                  | -           | 74                  | -34.95         | 0-360          | 100         | H        |
| 4      | * 1.575         | 31.48                | Pk  | 28.1           | -20.1                   | 0            | 39.48                      | -                  | -           | 74                  | -34.52         | 0-360          | 100         | V        |
| 6      | * 4.924         | 35.18                | Pk  | 34.3           | -29.3                   | 0            | 40.18                      | -                  | -           | 74                  | -33.82         | 0-360          | 100         | H        |
| 5      | 3.282           | 51.04                | Pk  | 32.8           | -32.7                   | 0            | 51.14                      | -                  | -           | -                   | -              | 0-360          | 200         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

# Radiated Emissions

| Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T346 (db/m) | Amp/Cbl/Filtr /Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|------|----------------|-------------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| * 1.025         | 38.15                | PK2  | 27.6           | -23.2                   | 0            | 42.55                      | -                  | -           | 74                  | -31.45         | 300            | 210         | H        |
| * 1.025         | 29.11                | MAV1 | 27.6           | -23.2                   | .17          | 33.68                      | 54                 | -20.32      | -                   | -              | 300            | 210         | H        |
| * 1.125         | 46.81                | PK2  | 27.9           | -22.2                   | 0            | 52.51                      | -                  | -           | 74                  | -21.49         | 293            | 197         | H        |
| * 1.125         | 33.91                | MAV1 | 27.9           | -22.2                   | .17          | 39.78                      | 54                 | -14.22      | -                   | -              | 293            | 197         | H        |
| * 1.35          | 38.57                | PK2  | 29             | -20.9                   | 0            | 46.67                      | -                  | -           | 74                  | -27.33         | 118            | 132         | H        |
| * 1.35          | 27.09                | MAV1 | 29             | -20.9                   | .17          | 35.36                      | 54                 | -18.64      | -                   | -              | 118            | 132         | H        |
| * 1.575         | 41.59                | PK2  | 28.1           | -20.1                   | 0            | 49.59                      | -                  | -           | 74                  | -24.41         | 243            | 134         | V        |
| * 1.575         | 27.36                | MAV1 | 28.1           | -20.1                   | .17          | 35.53                      | 54                 | -18.47      | -                   | -              | 243            | 134         | V        |
| * 4.925         | 45.99                | PK2  | 34.3           | -29.3                   | 0            | 50.99                      | -                  | -           | 74                  | -23.01         | 97             | 122         | H        |
| * 4.924         | 33.11                | MAV1 | 34.3           | -29.3                   | .17          | 38.28                      | 54                 | -15.72      | -                   | -              | 97             | 122         | H        |
| * 4.923         | 49.67                | PK2  | 34.3           | -29.3                   | 0            | 54.67                      | -                  | -           | 74                  | -19.33         | 263            | 100         | H        |
| * 4.925         | 41.63                | MAV1 | 34.3           | -29.3                   | .17          | 46.8                       | 54                 | -7.2        | -                   | -              | 263            | 100         | H        |
| 3.283           | 53.73                | PK2  | 32.8           | -32.7                   | 0            | 53.83                      | -                  | -           | 74                  | -20.17         | 336            | 234         | V        |

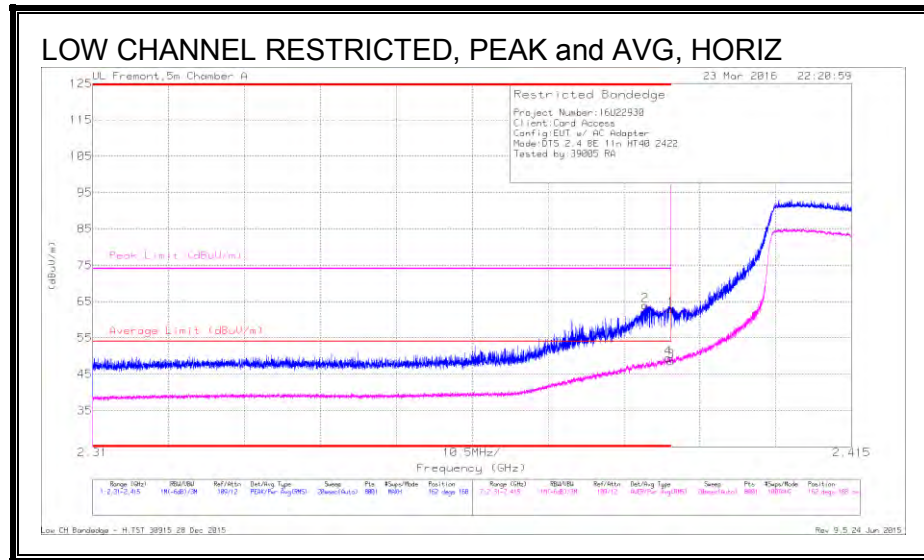
\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average

## 10.6. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 2.4 GHz BAND

### RESTRICTED BANDEDGE (LOW CHANNEL 2422MHz)



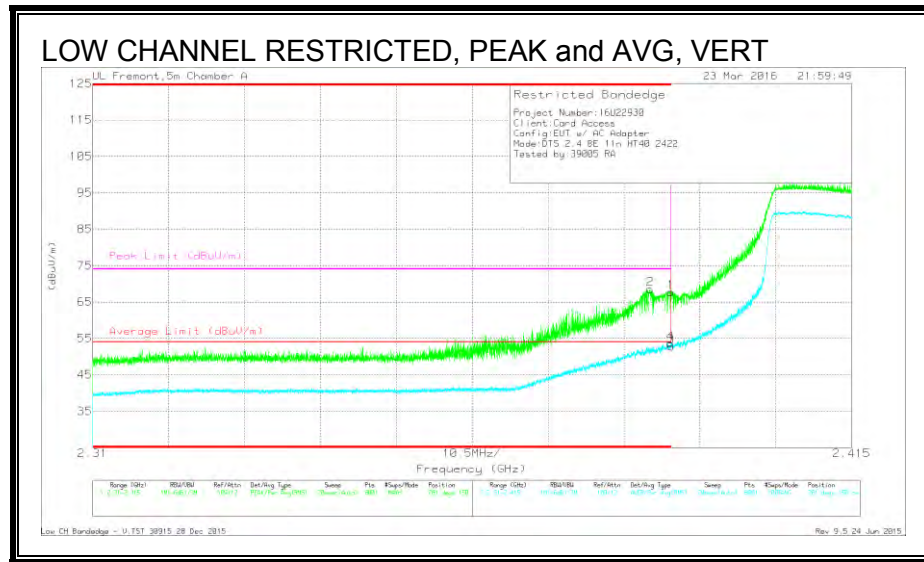
### Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Fit r/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 2      | * 2.386         | 51.55                | Pk  | 32.3           | -19.9                  | 0            | 63.95                      | -                      | -           | 74                  | -10.05         | 162            | 168         | H        |
| 1      | * 2.39          | 50.48                | Pk  | 32.3           | -19.9                  | 0            | 62.88                      | -                      | -           | 74                  | -11.12         | 162            | 168         | H        |
| 3      | * 2.39          | 35.91                | RMS | 32.3           | -19.9                  | .26          | 48.57                      | 54                     | -5.43       | -                   | -              | 162            | 168         | H        |
| 4      | * 2.39          | 36.74                | RMS | 32.3           | -19.9                  | .26          | 49.4                       | 54                     | -4.6        | -                   | -              | 162            | 168         | H        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection



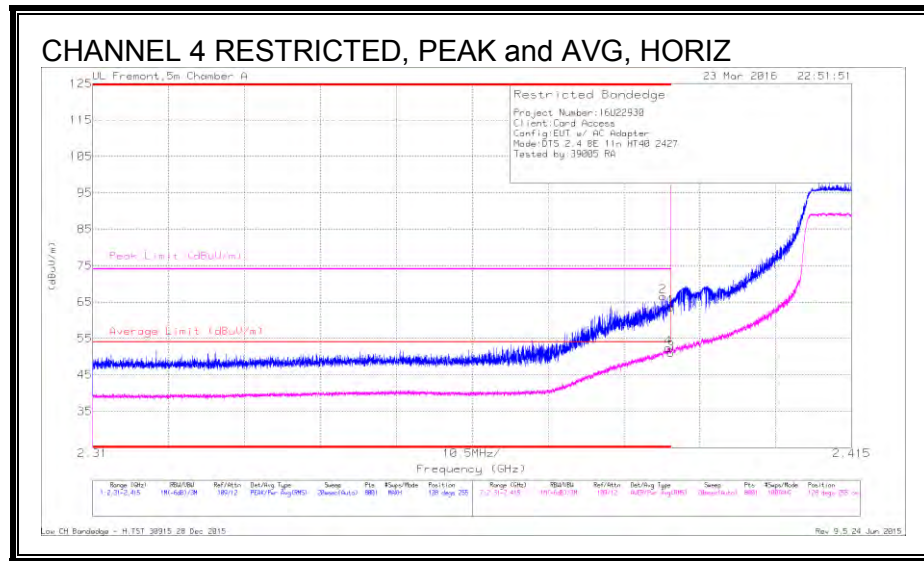
## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Fit r/Pad (db) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.39          | 55.27                | Pk  | 32.3           | -19.9                  | 0            | 67.67                      | -                      | -           | 74                  | -6.33          | 281            | 150         | V        |
| 2      | * 2.387         | 56.11                | Pk  | 32.3           | -19.9                  | 0            | 68.51                      | -                      | -           | 74                  | -5.49          | 281            | 150         | V        |
| 3      | * 2.39          | 40.12                | RMS | 32.3           | -19.9                  | .26          | 52.78                      | 54                     | -1.22       | -                   | -              | 281            | 150         | V        |
| 4      | * 2.39          | 40.97                | RMS | 32.3           | -19.9                  | .26          | 53.63                      | 54                     | -1.37       | -                   | -              | 281            | 150         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

**RESTRICTED BANDEDGE (CHANNEL 4, 2427MHz)**

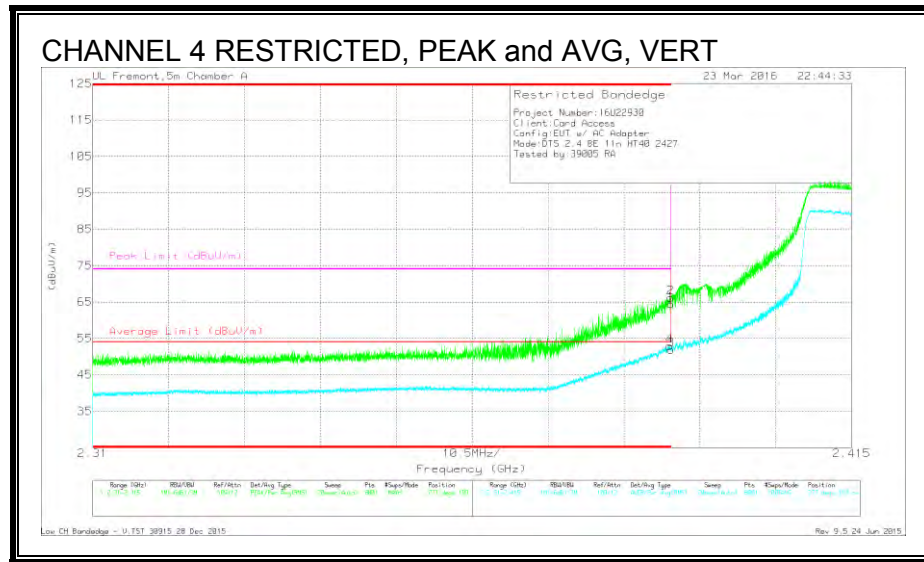
## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (dB/m) | Amp/Cbl/Fitter/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 2      | * 2.389         | 54.1                 | Pk  | 32.3           | -19.9                   | 0            | 66.5                       | -                      | -           | 74                  | -7.5           | 128            | 255         | H        |
| 1      | * 2.39          | 51.16                | Pk  | 32.3           | -19.9                   | 0            | 63.56                      | -                      | -           | 74                  | -10.44         | 128            | 255         | H        |
| 3      | * 2.39          | 38.37                | RMS | 32.3           | -19.9                   | .26          | 51.03                      | 54                     | -2.97       | -                   | -              | 128            | 255         | H        |
| 4      | * 2.39          | 39.76                | RMS | 32.3           | -19.9                   | .26          | 52.42                      | 54                     | -1.58       | -                   | -              | 128            | 255         | H        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection



## Trace Markers

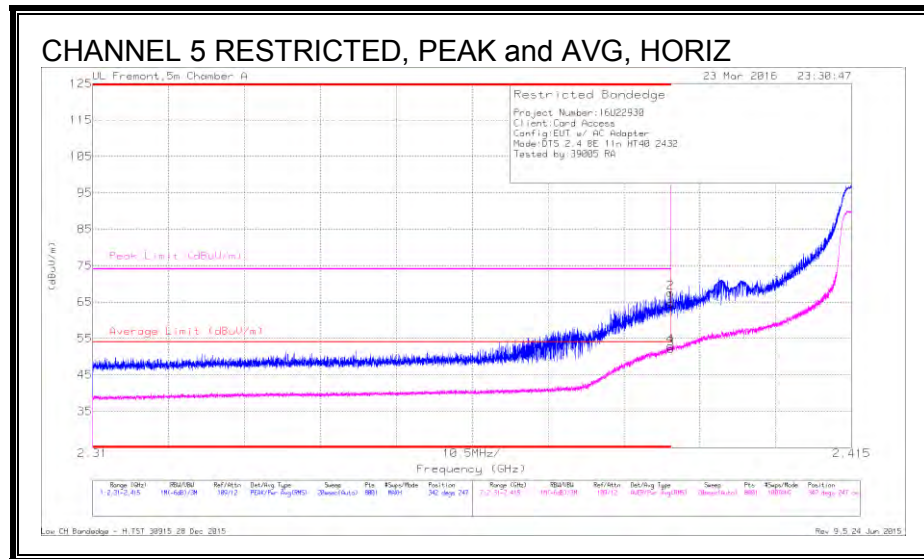
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Fit r/Pad (db) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.39          | 52.03                | Pk  | 32.3           | -19.9                  | 0            | 64.43                      | -                      | -           | 74                  | -9.57          | 277            | 199         | V        |
| 2      | * 2.39          | 53.83                | Pk  | 32.3           | -19.9                  | 0            | 66.23                      | -                      | -           | 74                  | -7.77          | 277            | 199         | V        |
| 3      | * 2.39          | 39.26                | RMS | 32.3           | -19.9                  | .26          | 51.92                      | 54                     | -2.08       | -                   | -              | 277            | 199         | V        |
| 4      | * 2.39          | 40.23                | RMS | 32.3           | -19.9                  | .26          | 52.89                      | 54                     | -1.11       | -                   | -              | 277            | 199         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

## RESTRICTED BANDEDGE (CHANNEL 5, 2432MHz)



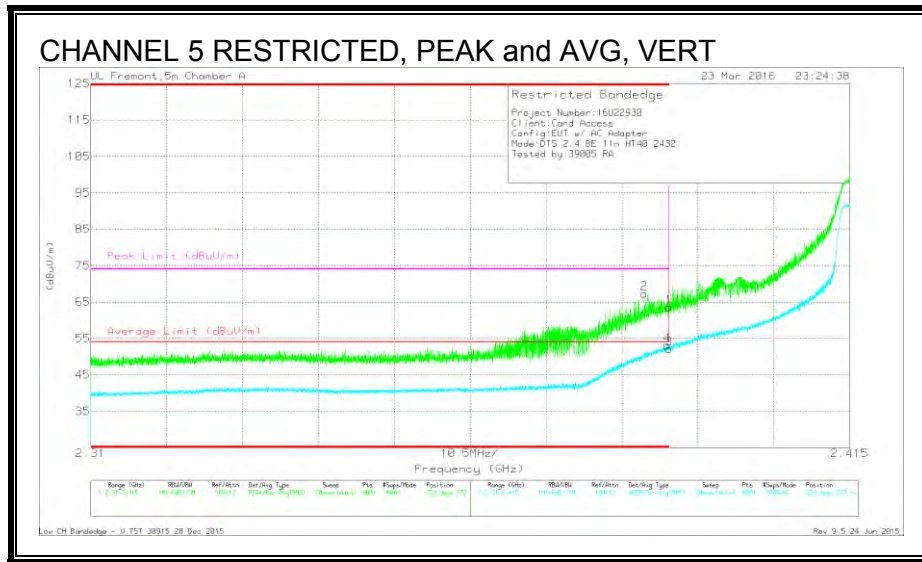
## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (dB/m) | Amp/Cbl/Filt r/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.39          | 52.17                | Pk  | 32.3           | -19.9                   | 0            | 64.57                      | -                      | -           | 74                  | -9.43          | 342            | 247         | H        |
| 2      | * 2.39          | 55.17                | Pk  | 32.3           | -19.9                   | 0            | 67.57                      | -                      | -           | 74                  | -6.43          | 342            | 247         | H        |
| 3      | * 2.39          | 39.48                | RMS | 32.3           | -19.9                   | .26          | 52.14                      | 54                     | -1.86       | -                   | -              | 342            | 247         | H        |
| 4      | * 2.39          | 40.27                | RMS | 32.3           | -19.9                   | .26          | 52.93                      | 54                     | -1.07       | -                   | -              | 342            | 247         | H        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

### RMS - RMS detection



## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Fit r/Pad (db) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 2      | * 2.387         | 54.96                | Pk  | 32.3           | -19.9                  | 0            | 67.36                      | -                      | -           | 74                  | -6.64          | 223            | 272         | V        |
| 1      | * 2.39          | 51.21                | Pk  | 32.3           | -19.9                  | 0            | 63.61                      | -                      | -           | 74                  | -10.39         | 223            | 272         | V        |
| 3      | * 2.39          | 39.45                | RMS | 32.3           | -19.9                  | .26          | 52.11                      | 54                     | -1.89       | -                   | -              | 223            | 272         | V        |
| 4      | * 2.39          | 40.43                | RMS | 32.3           | -19.9                  | .26          | 53.09                      | 54                     | -.91        | -                   | -              | 223            | 272         | V        |

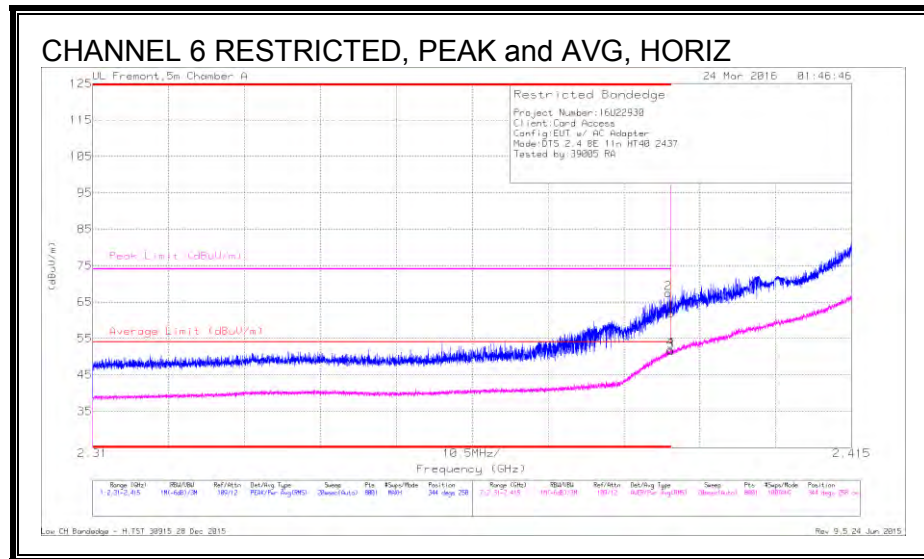
\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection



**RESTRICTED BANDEDGE (CHANNEL 6, 2437MHz)**



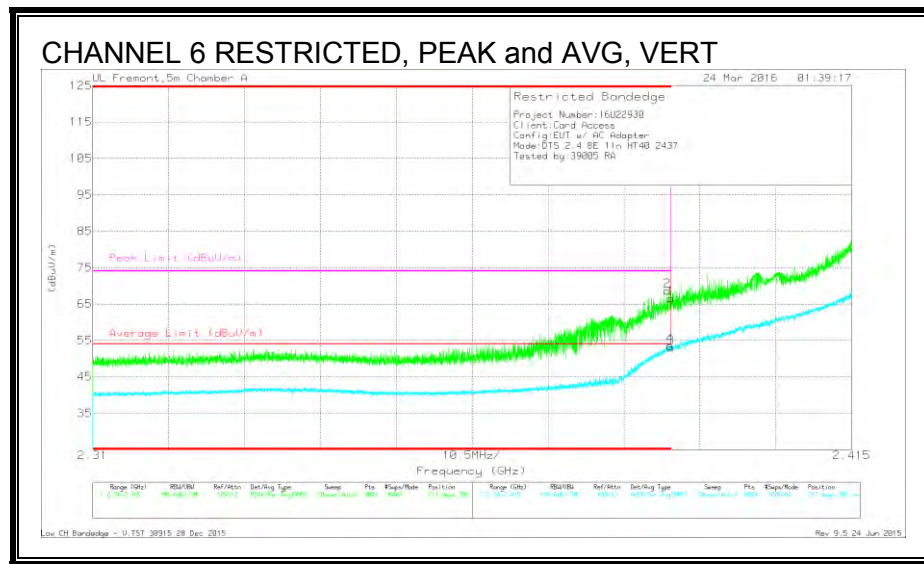
## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Chl/Filt r/Pad (db) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.39          | 49.59                | Pk  | 32.3           | -19.9                   | 0            | 61.99                      | -                      | -           | 74                  | -12.01         | 344            | 258         | H        |
| 2      | * 2.39          | 55.05                | Pk  | 32.3           | -19.9                   | 0            | 67.45                      | -                      | -           | 74                  | -6.55          | 344            | 258         | H        |
| 3      | * 2.39          | 38.87                | RMS | 32.3           | -19.9                   | .26          | 51.53                      | 54                     | -2.47       | -                   | -              | 344            | 258         | H        |
| 4      | * 2.39          | 39.22                | RMS | 32.3           | -19.9                   | .26          | 51.88                      | 54                     | -2.12       | -                   | -              | 344            | 258         | H        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

## RMS - RMS detection



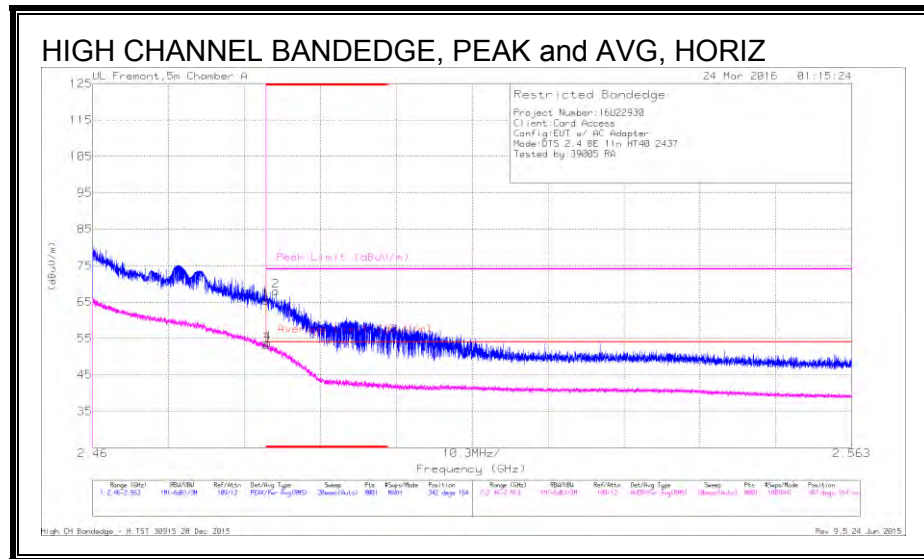
## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Fit r/Pad (db) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.39          | 54.15                | Pk  | 32.3           | -19.9                  | 0            | 66.55                      | -                      | -           | 74                  | -7.45          | 217            | 306         | V        |
| 2      | * 2.389         | 56.22                | Pk  | 32.3           | -19.9                  | 0            | 68.62                      | -                      | -           | 74                  | -5.38          | 217            | 306         | V        |
| 3      | * 2.39          | 40.38                | RMS | 32.3           | -19.9                  | .26          | 53.04                      | 54                     | -96         | -                   | -              | 217            | 306         | V        |
| 4      | * 2.39          | 40.8                 | RMS | 32.3           | -19.9                  | .26          | 53.46                      | 54                     | -54         | -                   | -              | 217            | 306         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

**AUTHORIZED BANDEGE (CHANNEL 6, 2437MHz)**

## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Fit r/Pad (db) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 52.91                | Pk  | 32.4           | -20                    | 0            | 65.31                      | -                      | -           | 74                  | -8.69          | 342            | 164         | H        |
| 2      | * 2.485         | 55.6                 | Pk  | 32.4           | -20                    | 0            | 68                         | -                      | -           | 74                  | -6             | 342            | 164         | H        |
| 3      | * 2.484         | 40.5                 | RMS | 32.4           | -20                    | .26          | 53.16                      | 54                     | -.84        | -                   | -              | 342            | 164         | H        |
| 4      | * 2.484         | 40.94                | RMS | 32.4           | -20                    | .26          | 53.6                       | 54                     | -.4         | -                   | -              | 342            | 164         | H        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

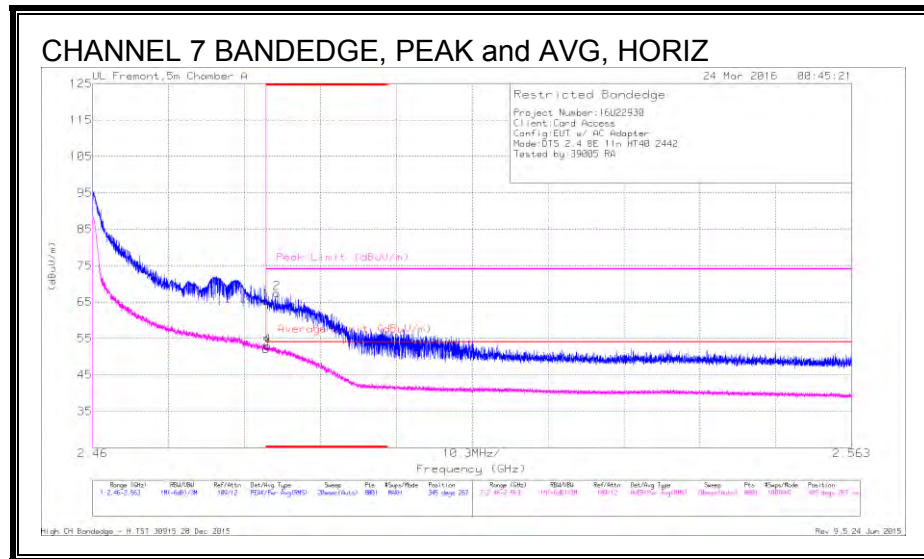
RMS - RMS detection



| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | At T346 (db/m) | Amp/Cbl/Filt r/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 53.39                | Pk  | 32.4           | -20                     | 0            | 65.79                      | -                      | -           | 74                  | -8.21          | 227            | 262         | V        |
| 2      | * 2.484         | 55.68                | Pk  | 32.4           | -20                     | 0            | 68.08                      | -                      | -           | 74                  | -5.92          | 227            | 262         | V        |
| 3      | * 2.484         | 38.74                | RMS | 32.4           | -20                     | .26          | 51.4                       | 54                     | -2.6        | -                   | -              | 227            | 262         | V        |
| 4      | * 2.484         | 40.01                | RMS | 32.4           | -20                     | .26          | 52.67                      | 54                     | -1.33       | -                   | -              | 227            | 262         | V        |

## RMS - RMS detection

**AUTHORIZED BANDEDGE (CHANNEL 7, 2442MHz)**



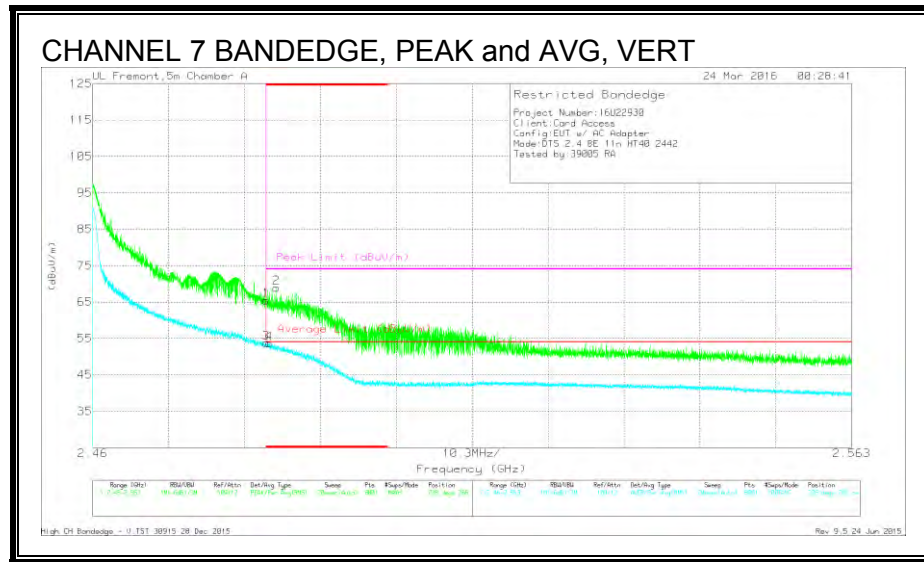
## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | Af T346 (db/m) | Amp/Cbl/Fit r/Pad (db) | DC Corr (dB) | Corrected Reading (dBUV/m) | Average Limit (dBUV/m) | Margin (dB) | Peak Limit (dBUV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 52.95                | Pk  | 32.4           | -20                    | 0            | 65.35                      | -                      | -           | 74                  | -8.65          | 345            | 267         | H        |
| 2      | * 2.485         | 54.98                | Pk  | 32.4           | -20                    | 0            | 67.38                      | -                      | -           | 74                  | -6.62          | 345            | 267         | H        |
| 3      | * 2.484         | 39.36                | RMS | 32.4           | -20                    | .26          | 52.02                      | 54                     | -1.98       | -                   | -              | 345            | 267         | H        |
| 4      | * 2.484         | 40.23                | RMS | 32.4           | -20                    | .26          | 52.89                      | 54                     | -1.11       | -                   | -              | 345            | 267         | H        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

## RMS - RMS detection



## Trace Markers

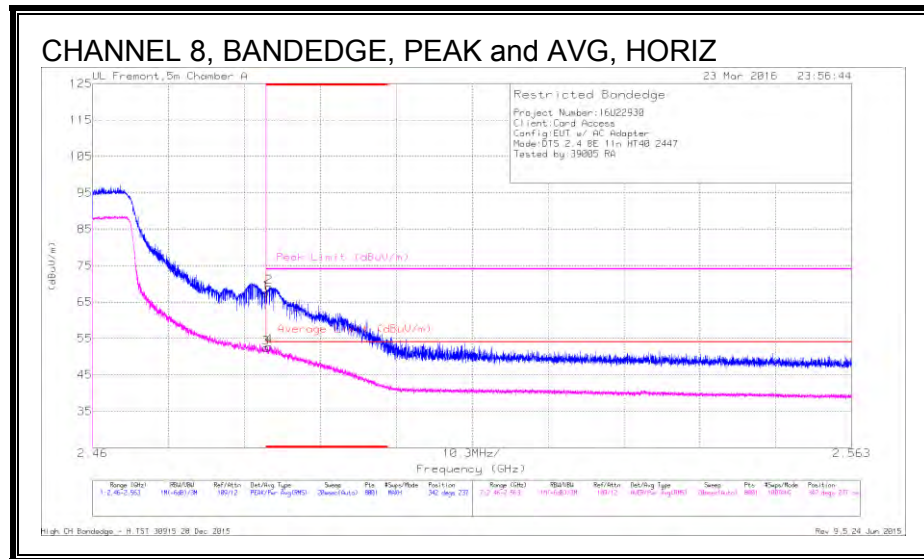
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Chl/Fit r/Pad (db) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 53.04                | Pk  | 32.4           | -20                    | 0            | 65.44                      | -                      | -           | 74                  | -8.56          | 228            | 266         | V        |
| 2      | * 2.485         | 56.5                 | Pk  | 32.4           | -20                    | 0            | 68.9                       | -                      | -           | 74                  | -5.1           | 228            | 266         | V        |
| 3      | * 2.484         | 41.06                | RMS | 32.4           | -20                    | .26          | 53.72                      | 54                     | -.28        | -                   | -              | 228            | 266         | V        |
| 4      | * 2.484         | 41.01                | RMS | 32.4           | -20                    | .26          | 53.67                      | 54                     | -.33        | -                   | -              | 228            | 266         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

**AUTHORIZED BANDEGE (CHANNEL 8, 2447MHZ)**



Trace Markers

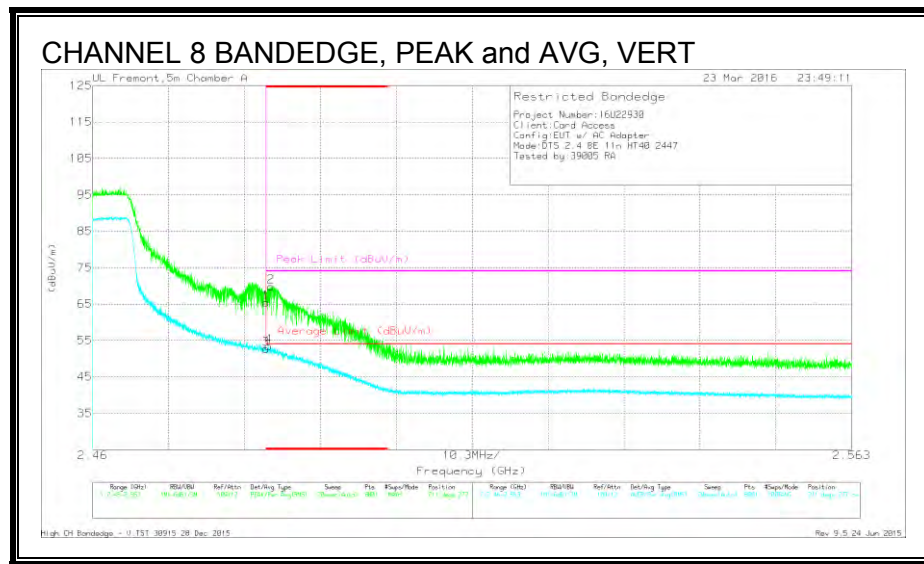
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Fit r/Pad (db) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 55.1                 | Pk  | 32.4           | -20                    | 0            | 67.5                       | -                      | -           | 74                  | -6.5           | 342            | 237         | H        |
| 2      | * 2.484         | 56.77                | Pk  | 32.4           | -20                    | 0            | 69.17                      | -                      | -           | 74                  | -4.83          | 342            | 237         | H        |
| 3      | * 2.484         | 39.76                | RMS | 32.4           | -20                    | .26          | 52.42                      | 54                     | -1.58       | -                   | -              | 342            | 237         | H        |
| 4      | * 2.484         | 40.17                | RMS | 32.4           | -20                    | .26          | 52.83                      | 54                     | -1.17       | -                   | -              | 342            | 237         | H        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection





## Trace Markers

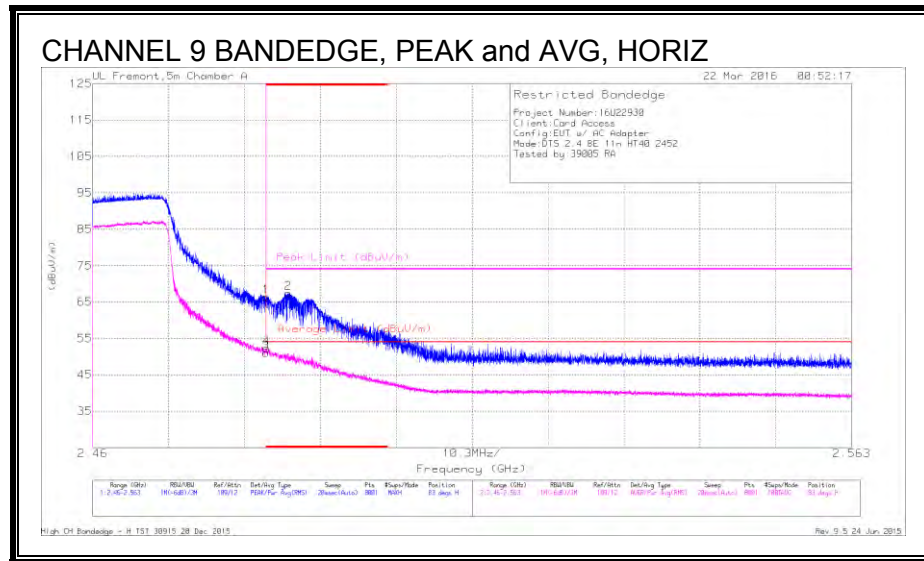
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Fit r/Pad (db) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 53.02                | Pk  | 32.4           | -20                    | 0            | 65.42                      | -                      | -           | 74                  | -8.58          | 211            | 277         | V        |
| 2      | * 2.484         | 57.44                | Pk  | 32.4           | -20                    | 0            | 69.84                      | -                      | -           | 74                  | -4.16          | 211            | 277         | V        |
| 3      | * 2.484         | 39.95                | RMS | 32.4           | -20                    | .26          | 52.61                      | 54                     | -1.39       | -                   | -              | 211            | 277         | V        |
| 4      | * 2.484         | 40.73                | RMS | 32.4           | -20                    | .26          | 53.39                      | 54                     | -.61        | -                   | -              | 211            | 277         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection



**AUTHORIZED BANDEGE (CHANNEL 9, 2452MHz)**

## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Fitter/Pad (db) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 53.98                | Pk  | 32.4           | -20                     | 0            | 66.38                      | -                      | -           | 74                  | -7.62          | 83             | 377         | H        |
| 2      | * 2.487         | 54.98                | Pk  | 32.5           | -20                     | 0            | 67.48                      | -                      | -           | 74                  | -6.52          | 83             | 377         | H        |
| 3      | * 2.484         | 38.35                | RMS | 32.4           | -20                     | .26          | 51.01                      | 54                     | -2.99       | -                   | -              | 83             | 377         | H        |
| 4      | * 2.484         | 39.58                | RMS | 32.4           | -20                     | .26          | 52.24                      | 54                     | -1.76       | -                   | -              | 83             | 377         | H        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

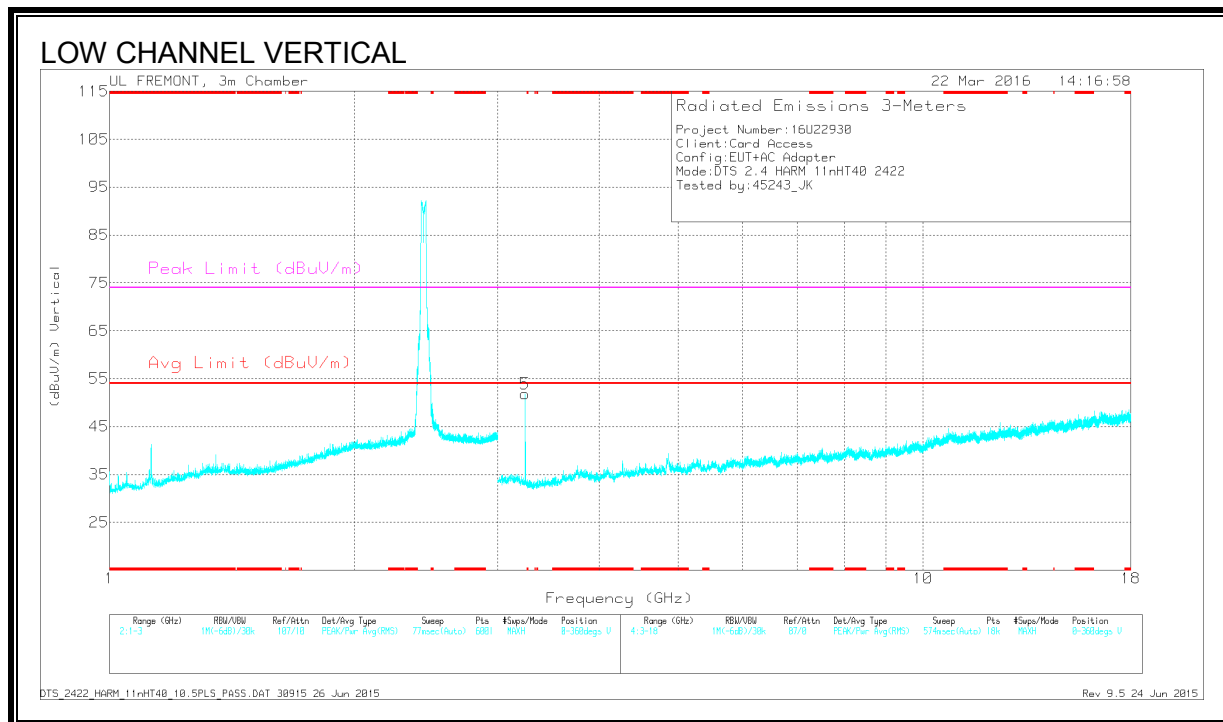
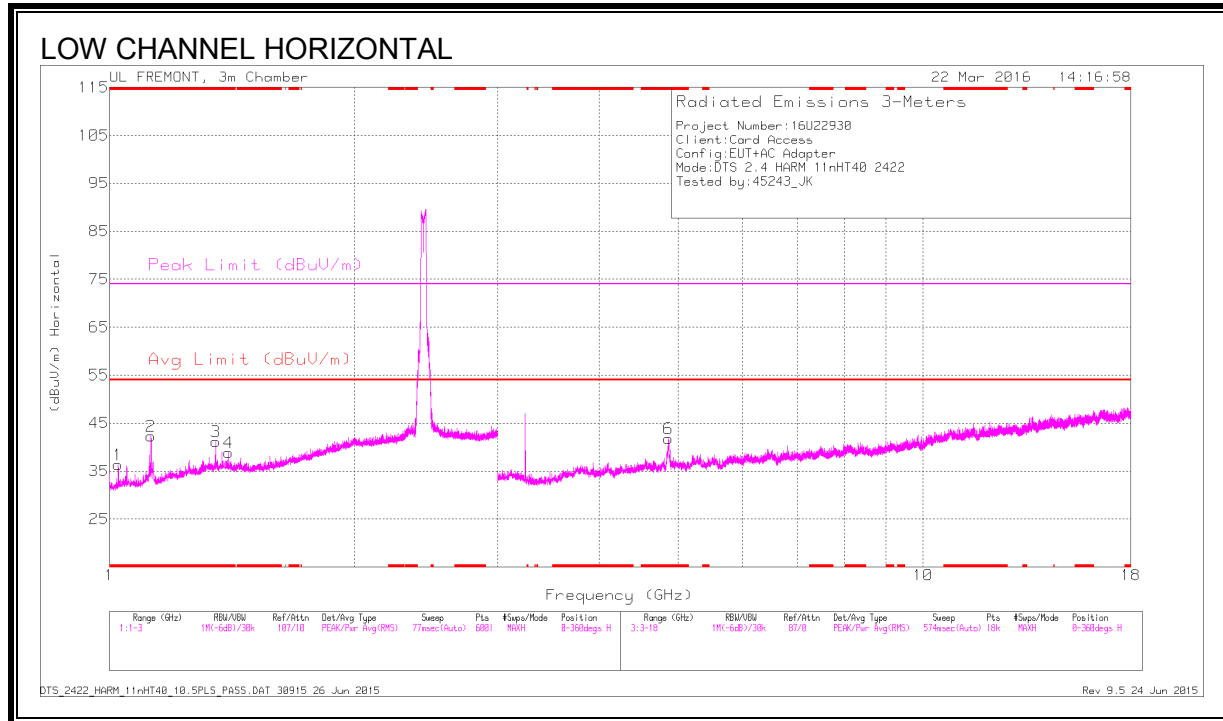
Pk - Peak detector

RMS - RMS detection



| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Filt r/Pad (db) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 54.87                | Pk  | 32.4           | -20                     | 0            | 67.27                      | -                      | -           | 74                  | -6.73          | 141            | 376         | V        |
| 2      | * 2.486         | 57.37                | Pk  | 32.5           | -20                     | 0            | 69.87                      | -                      | -           | 74                  | -4.13          | 141            | 376         | V        |
| 3      | * 2.484         | 40.56                | RMS | 32.4           | -20                     | .26          | 53.22                      | 54                     | -.78        | -                   | -              | 141            | 376         | V        |
| 4      | * 2.484         | 40.83                | RMS | 32.4           | -20                     | .26          | 53.49                      | 54                     | -.51        | -                   | -              | 141            | 376         | V        |

## RMS - RMS detection

**HARMONICS AND SPURIOUS EMISSIONS**

Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Ftr /Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 1.025         | 31.94                | Pk  | 27.6           | -23.2                 | 0            | 36.34                      | -                  | -           | 74                  | -37.66         | 0-360          | 201         | H        |
| 2      | * 1.125         | 36.55                | Pk  | 27.9           | -22.2                 | 0            | 42.25                      | -                  | -           | 74                  | -31.75         | 0-360          | 201         | H        |
| 3      | * 1.35          | 33.05                | Pk  | 29             | -20.9                 | 0            | 41.15                      | -                  | -           | 74                  | -32.85         | 0-360          | 100         | H        |
| 4      | * 1.4           | 30.52                | Pk  | 29             | -20.7                 | 0            | 38.82                      | -                  | -           | 74                  | -35.18         | 0-360          | 100         | H        |
| 6      | * 4.865         | 36.73                | Pk  | 34.3           | -29.2                 | 0            | 41.83                      | -                  | -           | 74                  | -32.17         | 0-360          | 100         | H        |
| 5      | 3.242           | 51.28                | Pk  | 33             | -32.4                 | 0            | 51.88                      | -                  | -           | -                   | -              | 0-360          | 100         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

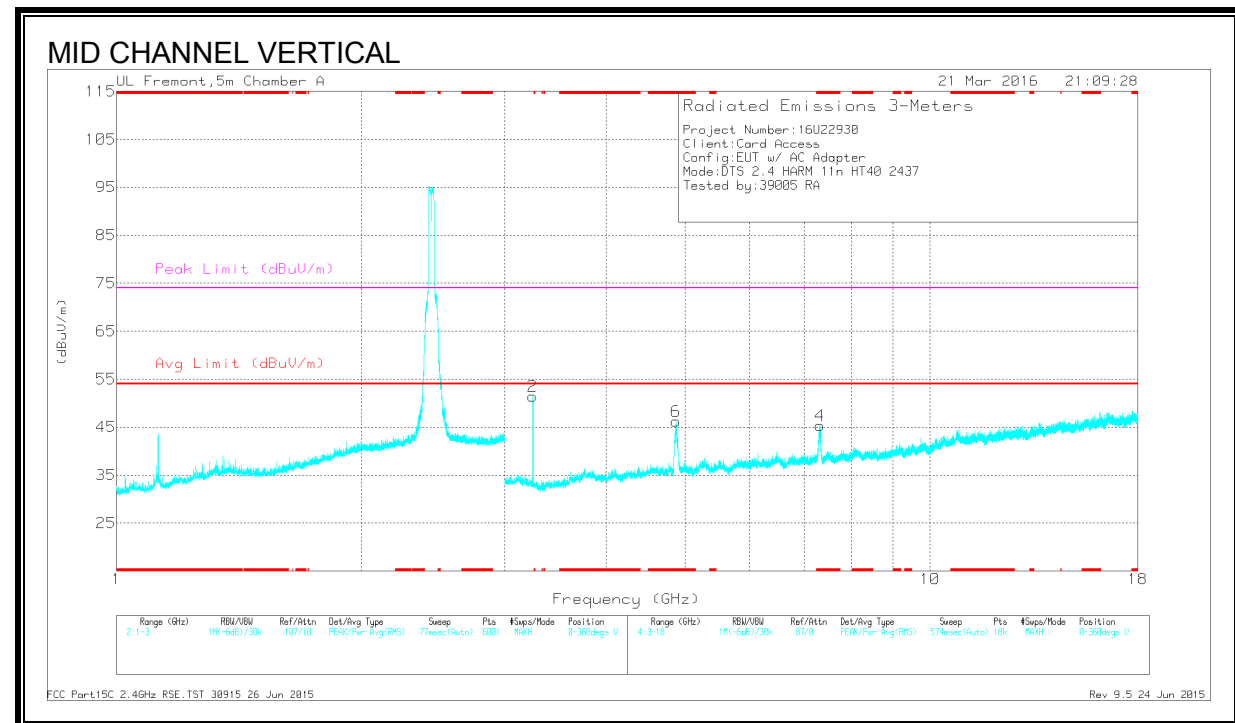
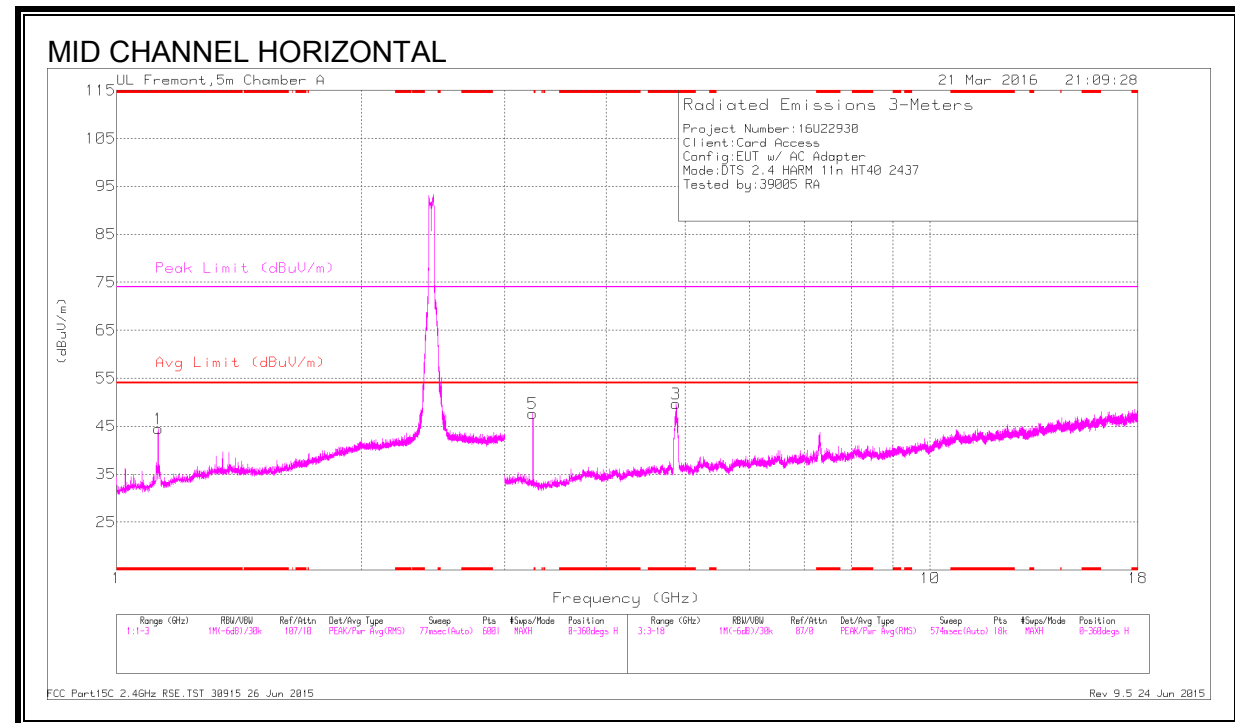
## Radiated Emissions

| Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T346 (db/m) | Amp/Cbl/Ftr /Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|------|----------------|-----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| * 1.025         | 38.21                | PK2  | 27.6           | -23.2                 | 0            | 42.61                      | -                  | -           | 74                  | -31.39         | 302            | 202         | H        |
| * 1.025         | 29.31                | MAV1 | 27.6           | -23.2                 | .26          | 33.97                      | 54                 | -20.03      | -                   | -              | 302            | 202         | H        |
| * 1.125         | 45.28                | PK2  | 27.9           | -22.2                 | 0            | 50.98                      | -                  | -           | 74                  | -23.02         | 297            | 193         | H        |
| * 1.125         | 32.39                | MAV1 | 27.9           | -22.2                 | .26          | 38.35                      | 54                 | -15.65      | -                   | -              | 297            | 193         | H        |
| * 1.35          | 39.36                | PK2  | 29             | -20.9                 | 0            | 47.46                      | -                  | -           | 74                  | -26.54         | 69             | 269         | H        |
| * 1.35          | 30.19                | MAV1 | 29             | -20.9                 | .26          | 38.55                      | 54                 | -15.45      | -                   | -              | 69             | 269         | H        |
| * 1.4           | 37.33                | PK2  | 29             | -20.7                 | 0            | 45.63                      | -                  | -           | 74                  | -28.37         | 54             | 164         | H        |
| * 1.4           | 27.52                | MAV1 | 29             | -20.7                 | .26          | 36.08                      | 54                 | -17.92      | -                   | -              | 54             | 164         | H        |
| * 4.866         | 47.88                | PK2  | 34.3           | -29.2                 | 0            | 52.98                      | -                  | -           | 74                  | -21.02         | 114            | 100         | H        |
| * 4.864         | 32.82                | MAV1 | 34.3           | -29.3                 | .26          | 38.08                      | 54                 | -15.92      | -                   | -              | 114            | 100         | H        |
| * 4.863         | 46.1                 | PK2  | 34.3           | -29.3                 | 0            | 51.1                       | -                  | -           | 74                  | -22.9          | 232            | 138         | H        |
| * 4.863         | 39.17                | MAV1 | 34.3           | -29.3                 | .26          | 44.43                      | 54                 | -9.57       | -                   | -              | 232            | 138         | H        |
| 3.243           | 53.04                | PK2  | 33             | -32.4                 | 0            | 53.64                      | -                  | -           | 74                  | -20.36         | 341            | 162         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Filtr /Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-------------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 1.125         | 38.77                | Pk  | 27.9           | -22.2                   | 0            | 44.47                      | -                  | -           | 74                  | -29.53         | 0-360          | 100         | H        |
| 3      | * 4.871         | 44.69                | Pk  | 34.3           | -29.3                   | 0            | 49.69                      | -                  | -           | 74                  | -24.31         | 0-360          | 100         | H        |
| 4      | * 7.325         | 36.1                 | Pk  | 35.7           | -26.5                   | 0            | 45.3                       | -                  | -           | 74                  | -28.7          | 0-360          | 100         | V        |
| 6      | * 4.871         | 41.24                | Pk  | 34.3           | -29.3                   | 0            | 46.24                      | -                  | -           | 74                  | -27.76         | 0-360          | 100         | V        |
| 5      | 3.249           | 47.18                | Pk  | 33             | -32.5                   | 0            | 47.68                      | -                  | -           | -                   | -              | 0-360          | 100         | H        |
| 2      | 3.249           | 50.93                | Pk  | 33             | -32.5                   | 0            | 51.43                      | -                  | -           | -                   | -              | 0-360          | 200         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

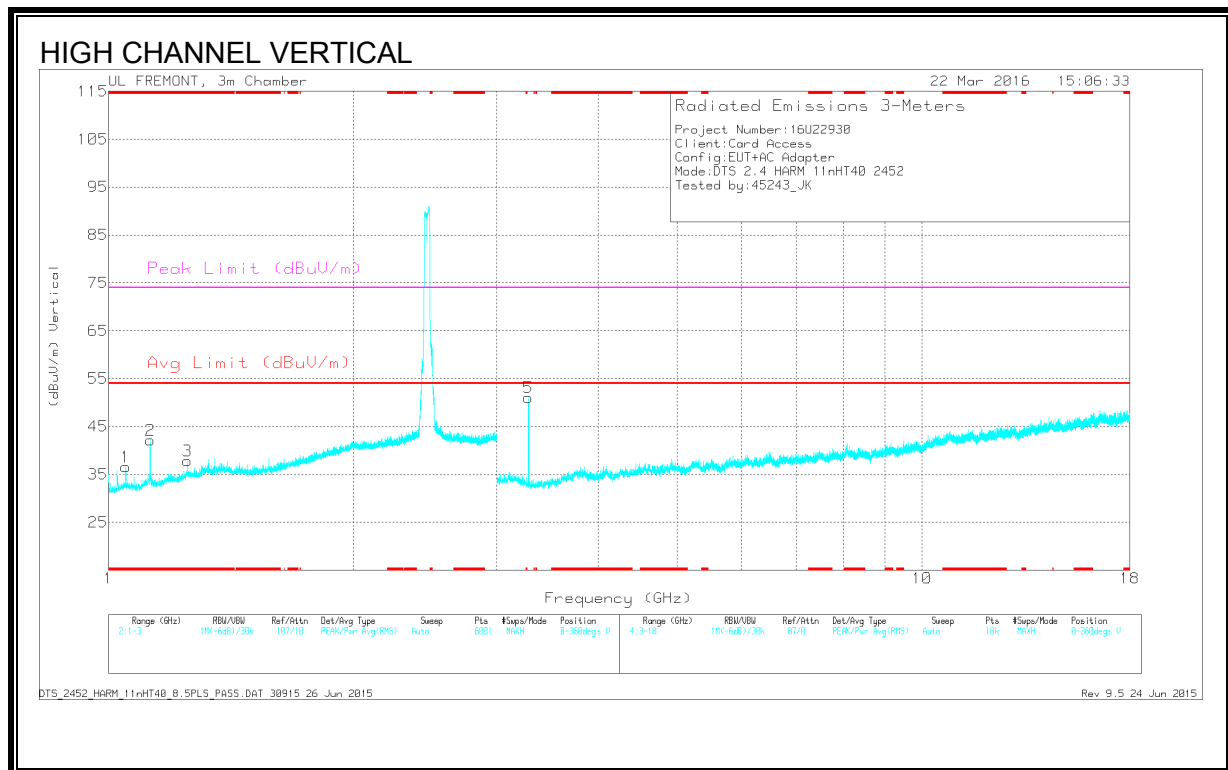
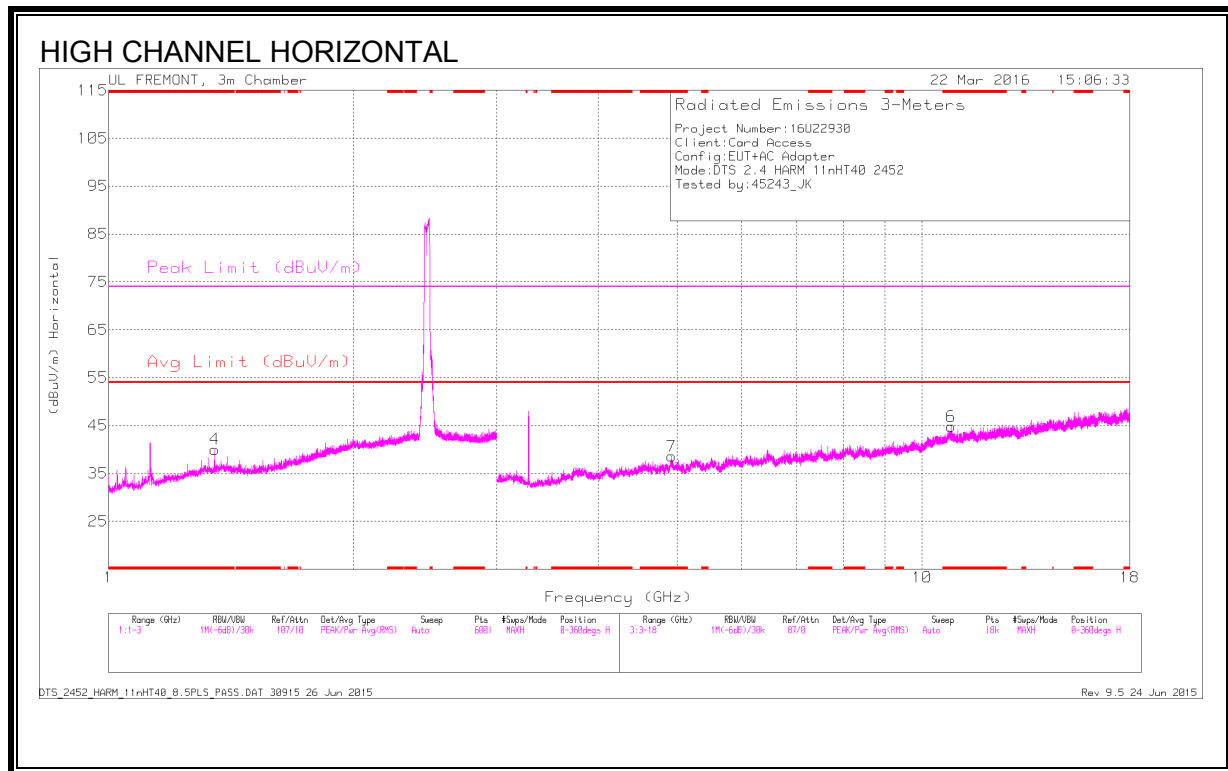
## Radiated Emissions

| Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T346 (db/m) | Amp/Cbl/Filtr /Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|------|----------------|-------------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| * 1.125         | 41.05                | PK2  | 27.9           | -22.2                   | 0            | 46.75                      | -                  | -           | 74                  | -27.25         | 83             | 107         | H        |
| * 1.125         | 36.05                | MAV1 | 27.9           | -22.2                   | .26          | 42.01                      | 54                 | -11.99      | -                   | -              | 83             | 107         | H        |
| * 4.874         | 44.54                | PK2  | 34.3           | -29.3                   | 0            | 49.54                      | -                  | -           | 74                  | -24.46         | 296            | 101         | H        |
| * 4.873         | 37.51                | MAV1 | 34.3           | -29.3                   | .26          | 42.77                      | 54                 | -11.23      | -                   | -              | 296            | 101         | H        |
| * 7.319         | 38.54                | PK2  | 35.7           | -26.5                   | 0            | 47.74                      | -                  | -           | 74                  | -26.26         | 176            | 391         | V        |
| * 7.307         | 31.27                | MAV1 | 35.7           | -26.6                   | .26          | 40.63                      | 54                 | -13.37      | -                   | -              | 176            | 391         | V        |
| * 4.874         | 41.9                 | PK2  | 34.3           | -29.3                   | 0            | 46.9                       | -                  | -           | 74                  | -27.1          | 310            | 103         | V        |
| * 4.874         | 34.88                | MAV1 | 34.3           | -29.3                   | .26          | 40.14                      | 54                 | -13.86      | -                   | -              | 310            | 103         | V        |
| 3.249           | 48.79                | PK2  | 33             | -32.5                   | 0            | 49.29                      | -                  | -           | 74                  | -24.71         | 252            | 390         | H        |
| 3.249           | 52.5                 | PK2  | 33             | -32.5                   | 0            | 53                         | -                  | -           | 74                  | -21.00         | 168            | 263         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T346 (db/m) | Amp/Cbl/Fitr /Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 4      | * 1.35          | 31.98                | Pk  | 29             | -20.9                  | 0            | 40.08                      | -                  | -           | 74                  | -33.92         | 0-360          | 100         | H        |
| 1      | * 1.05          | 31.67                | Pk  | 27.6           | -22.7                  | 0            | 36.57                      | -                  | -           | 74                  | -37.43         | 0-360          | 100         | V        |
| 2      | * 1.125         | 36.53                | Pk  | 27.9           | -22.2                  | 0            | 42.23                      | -                  | -           | 74                  | -31.77         | 0-360          | 200         | V        |
| 3      | * 1.25          | 30.84                | Pk  | 28.6           | -21.6                  | 0            | 37.84                      | -                  | -           | 74                  | -36.16         | 0-360          | 200         | V        |
| 6      | * 10.86         | 28.94                | Pk  | 37.8           | -21.9                  | 0            | 44.84                      | -                  | -           | 74                  | -29.16         | 0-360          | 100         | H        |
| 7      | * 4.924         | 33.57                | Pk  | 34.3           | -29.3                  | 0            | 38.57                      | -                  | -           | 74                  | -35.43         | 0-360          | 100         | H        |
| 5      | 3.282           | 50.98                | Pk  | 32.8           | -32.7                  | 0            | 51.08                      | -                  | -           | -                   | -              | 0-360          | 200         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

## Radiated Emissions

| Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T346 (db/m) | Amp/Cbl/Fitr /Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|------|----------------|------------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| * 1.35          | 39.13                | PK2  | 29             | -20.9                  | 0            | 47.23                      | -                  | -           | 74                  | -26.77         | 70             | 129         | H        |
| * 1.35          | 28.45                | MAV1 | 29             | -20.9                  | .26          | 36.81                      | 54                 | -17.19      | -                   | -              | 70             | 129         | H        |
| * 1.05          | 38.77                | PK2  | 27.6           | -22.7                  | 0            | 43.67                      | -                  | -           | 74                  | -30.33         | 324            | 105         | V        |
| * 1.05          | 29.63                | MAV1 | 27.6           | -22.7                  | .26          | 34.79                      | 54                 | -19.21      | -                   | -              | 324            | 105         | V        |
| * 1.125         | 46.02                | PK2  | 27.9           | -22.2                  | 0            | 51.72                      | -                  | -           | 74                  | -22.28         | 270            | 250         | V        |
| * 1.125         | 32.16                | MAV1 | 27.9           | -22.2                  | .26          | 38.12                      | 54                 | -15.88      | -                   | -              | 270            | 250         | V        |
| * 1.25          | 37.66                | PK2  | 28.6           | -21.6                  | 0            | 44.66                      | -                  | -           | 74                  | -29.34         | 245            | 202         | V        |
| * 1.25          | 27.86                | MAV1 | 28.6           | -21.6                  | .26          | 35.12                      | 54                 | -18.88      | -                   | -              | 245            | 202         | V        |
| * 10.86         | 35.92                | PK2  | 37.8           | -22                    | 0            | 51.72                      | -                  | -           | 74                  | -22.28         | 110            | 168         | H        |
| * 10.86         | 23.67                | MAV1 | 37.8           | -21.9                  | .26          | 39.83                      | 54                 | -14.17      | -                   | -              | 110            | 168         | H        |
| * 4.924         | 49.47                | PK2  | 34.3           | -29.3                  | 0            | 54.47                      | -                  | -           | 74                  | -19.53         | 231            | 106         | H        |
| * 4.923         | 39.61                | MAV1 | 34.3           | -29.3                  | .26          | 44.87                      | 54                 | -9.13       | -                   | -              | 231            | 106         | H        |
| 3.283           | 53.68                | PK2  | 32.8           | -32.7                  | 0            | 53.78                      | -                  | -           | 74                  | -20.22         | 336            | 166         | V        |
| 3.283           | 51.7                 | MAV1 | 32.8           | -32.7                  | .26          | 52.06                      | -                  | -           | -                   | -              | 336            | 166         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

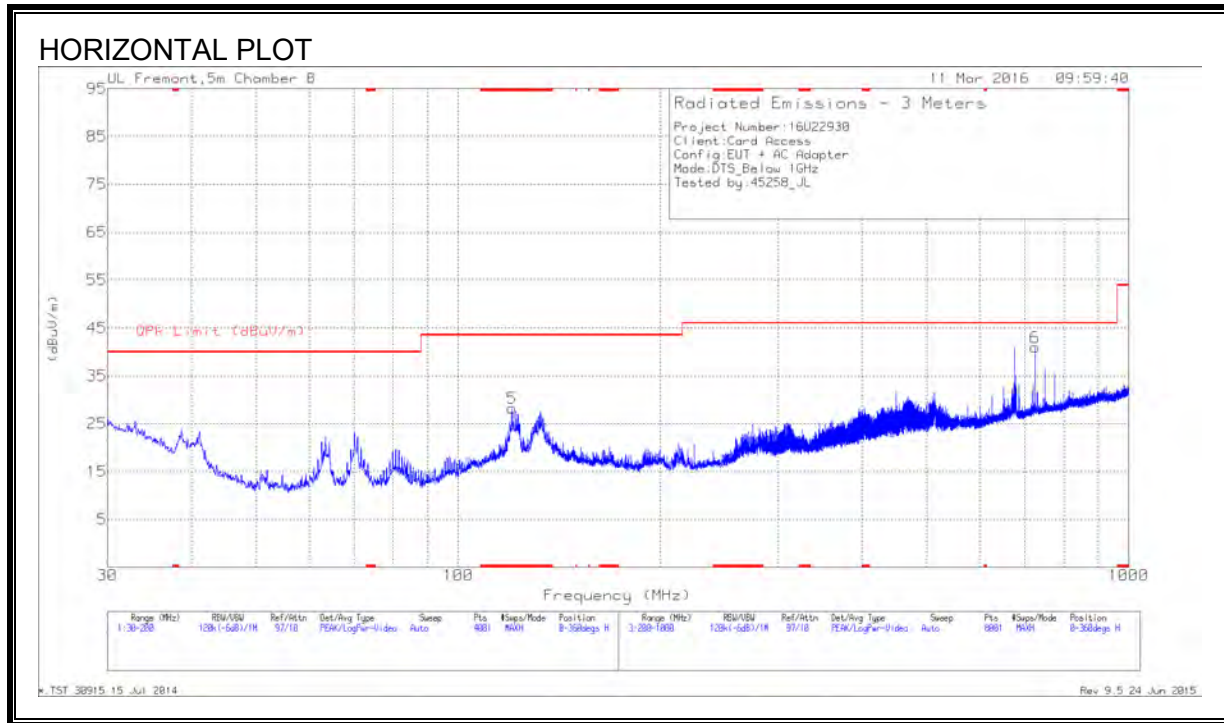
PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average

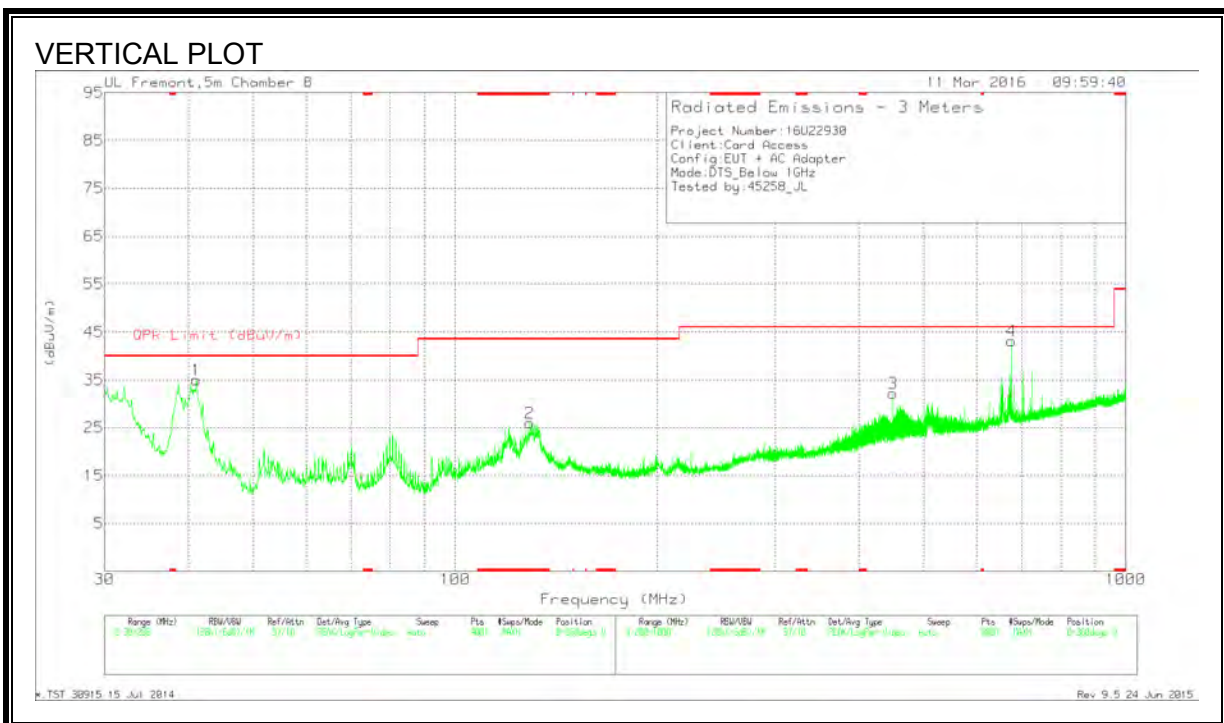


## 10.7. WORST-CASE BELOW 1 GHz

### SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)



### SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)



DATA

Trace Markers

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | AF T130 (dB/m) | Amp/Cbl (dB) | Corrected Reading (dBuV/m) | QPk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|--------------|----------------------------|--------------------|-------------|----------------|-------------|----------|
| 5      | * 120.2275      | 38.44                | Pk  | 17.7           | -27.9        | 28.24                      | 43.52              | -15.28      | 0-360          | 199         | H        |
| 2      | * 129.2375      | 36                   | Pk  | 17.8           | -27.8        | 26                         | 43.52              | -17.52      | 0-360          | 101         | V        |
| 1      | 41.135          | 46.68                | Pk  | 17.1           | -28.8        | 34.98                      | 40                 | -5.02       | 0-360          | 101         | V        |
| 3      | 450             | 37.75                | Pk  | 20.8           | -26.4        | 32.15                      | 46.02              | -13.87      | 0-360          | 199         | V        |
| 4      | 675             | 44.92                | Pk  | 23.8           | -25.6        | 43.12                      | 46.02              | -2.9        | 0-360          | 101         | V        |
| 6      | 725             | 41.74                | Pk  | 24.4           | -25.2        | 40.94                      | 46.02              | -5.08       | 0-360          | 199         | H        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

Radiated Emissions

| Frequency (MHz) | Meter Reading (dBuV) | Det | AF T130 (dB/m) | Amp/Cbl (dB) | Corrected Reading (dBuV/m) | QPk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|-----|----------------|--------------|----------------------------|--------------------|-------------|----------------|-------------|----------|
| 41.1081         | 43.43                | Qp  | 17.1           | -28.8        | 31.73                      | 40                 | -8.27       | 326            | 102         | V        |
| 675.0178        | 34.88                | Qp  | 23.8           | -25.6        | 33.08                      | 46.02              | -12.94      | 297            | 185         | V        |

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Qp - Quasi-Peak detector

## 11. AC POWER LINE CONDUCTED EMISSIONS

### LIMITS

FCC §15.207 (a)

RSS-Gen 8.8

| Frequency of Emission (MHz) | Conducted Limit (dBuV) |                       |
|-----------------------------|------------------------|-----------------------|
|                             | Quasi-peak             | Average               |
| 0.15-0.5                    | 66 to 56 <sup>*</sup>  | 56 to 46 <sup>*</sup> |
| 0.5-5                       | 56                     | 46                    |
| 5-30                        | 60                     | 50                    |

<sup>\*</sup> Decreases with the logarithm of the frequency.

### TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.10.

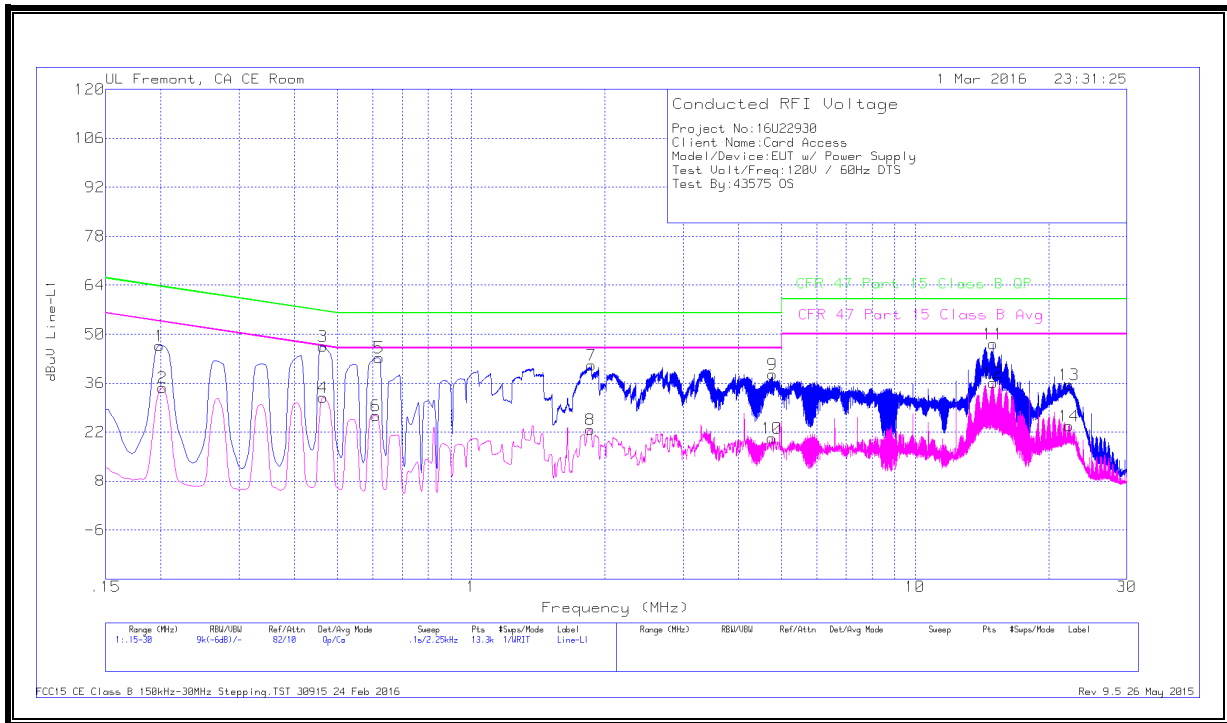
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both NEUTRAL and HOT lines.

## RESULTS

### 6 WORST EMISSIONS

#### LINE 1 RESULTS



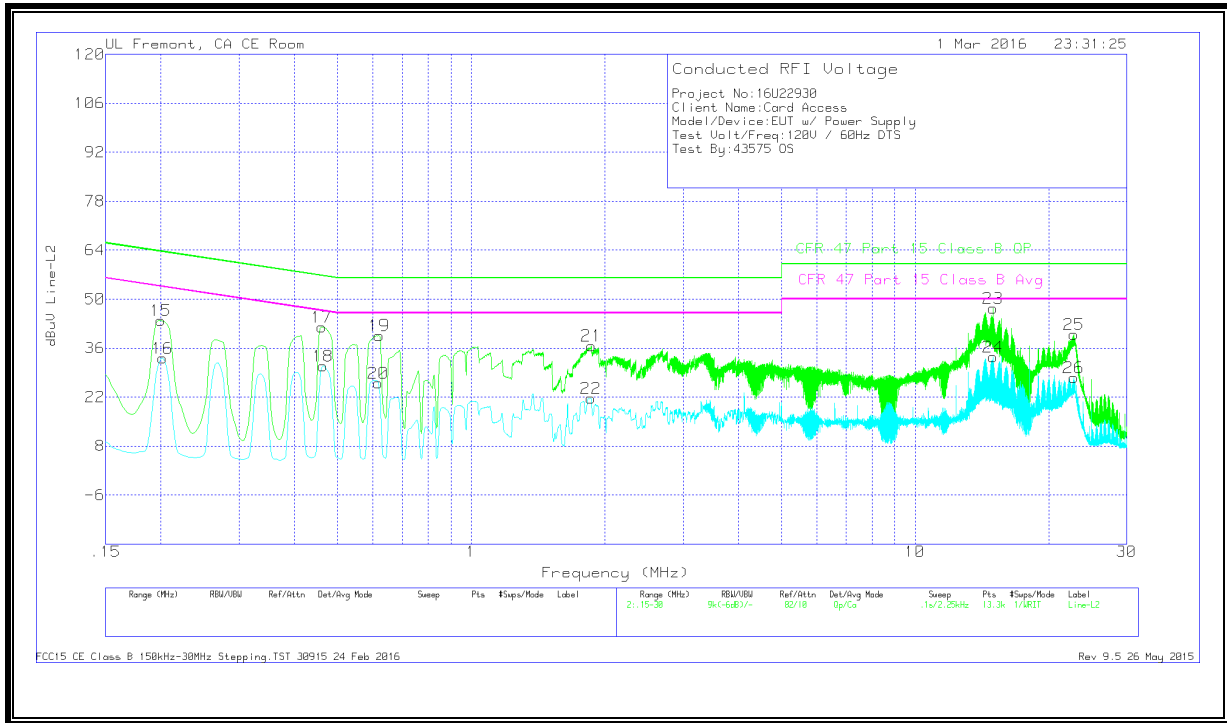
#### Range 1: Line-L1 .15 - 30MHz

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | T1310 IL L1 | LC Cables 1&3 | Limiter (dB) | Corrected Reading dBuV | CFR 47 Part 15 Class B QP | QP Margin (dB) | CFR 47 Part 15 Class B Avg | Av(CISPR) Margin (dB) |
|--------|-----------------|----------------------|-----|-------------|---------------|--------------|------------------------|---------------------------|----------------|----------------------------|-----------------------|
| 1      | .19838          | 36.66                | Qp  | 0           | 0             | 10.1         | 46.76                  | 63.68                     | -16.92         | -                          | -                     |
| 2      | .20175          | 24.61                | Ca  | 0           | 0             | 10.1         | 34.71                  | -                         | -              | 53.54                      | -18.83                |
| 3      | .46275          | 36.4                 | Qp  | 0           | 0             | 10.1         | 46.5                   | 56.64                     | -10.14         | -                          | -                     |
| 4      | .46275          | 21.89                | Ca  | 0           | 0             | 10.1         | 31.99                  | -                         | -              | 46.64                      | -14.65                |
| 5      | .62025          | 33.2                 | Qp  | 0           | 0             | 10.1         | 43.3                   | 56                        | -12.7          | -                          | -                     |
| 6      | .609            | 16.63                | Ca  | 0           | 0             | 10.1         | 26.73                  | -                         | -              | 46                         | -19.27                |
| 7      | 1.8645          | 30.93                | Qp  | 0           | .1            | 10.1         | 41.13                  | 56                        | -14.87         | -                          | -                     |
| 8      | 1.8555          | 12.49                | Ca  | 0           | .1            | 10.1         | 22.69                  | -                         | -              | 46                         | -23.31                |
| 9      | 4.767           | 28.33                | Qp  | 0           | .1            | 10.1         | 38.53                  | 56                        | -17.47         | -                          | -                     |
| 10     | 4.76475         | 10.09                | Ca  | 0           | .1            | 10.1         | 20.29                  | -                         | -              | 46                         | -25.71                |
| 11     | 15              | 36.87                | Qp  | 0           | .2            | 10.2         | 47.27                  | 60                        | -12.73         | -                          | -                     |
| 12     | 15              | 25.75                | Ca  | 0           | .2            | 10.2         | 36.15                  | -                         | -              | 50                         | -13.85                |
| 13     | 22.23825        | 24.94                | Qp  | 0           | .2            | 10.4         | 35.54                  | 60                        | -24.46         | -                          | -                     |
| 14     | 22.2405         | 13.19                | Ca  | 0           | .2            | 10.4         | 23.79                  | -                         | -              | 50                         | -26.21                |

Qp - Quasi-Peak detector

Ca - CISPR average detection

**LINE 2 RESULTS**



**Range 2: Line-L2 .15 - 30MHz**

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | T1310 IL L2 | LC Cables 2&3 | Limiter (dB) | Corrected Reading dBuV | CFR 47 Part 15 Class B QP | QP Margin (dB) | CFR 47 Part 15 Class B Avg | Av(CISPR) Margin (dB) |
|--------|-----------------|----------------------|-----|-------------|---------------|--------------|------------------------|---------------------------|----------------|----------------------------|-----------------------|
| 15     | .1995           | 33.88                | Qp  | 0           | 0             | 10.1         | 43.98                  | 63.63                     | -19.65         | -                          | -                     |
| 16     | .20175          | 23.04                | Ca  | 0           | 0             | 10.1         | 33.14                  | -                         | -              | 53.54                      | -20.4                 |
| 17     | .4605           | 31.88                | Qp  | 0           | 0             | 10.1         | 41.98                  | 56.68                     | -14.7          | -                          | -                     |
| 18     | .46387          | 20.8                 | Ca  | 0           | 0             | 10.1         | 30.9                   | -                         | -              | 46.62                      | -15.72                |
| 19     | .62025          | 29.55                | Qp  | 0           | 0             | 10.1         | 39.65                  | 56                        | -16.35         | -                          | -                     |
| 20     | .618            | 15.88                | Ca  | 0           | 0             | 10.1         | 25.98                  | -                         | -              | 46                         | -20.02                |
| 21     | 1.86675         | 26.5                 | Qp  | 0           | .1            | 10.1         | 36.7                   | 56                        | -19.3          | -                          | -                     |
| 22     | 1.86225         | 11.49                | Ca  | 0           | .1            | 10.1         | 21.69                  | -                         | -              | 46                         | -24.31                |
| 23     | 15              | 37                   | Qp  | 0           | .2            | 10.2         | 47.4                   | 60                        | -12.6          | -                          | -                     |
| 24     | 15              | 23.16                | Ca  | 0           | .2            | 10.2         | 33.56                  | -                         | -              | 50                         | -16.44                |
| 25     | 22.80075        | 29.2                 | Qp  | 0           | .3            | 10.4         | 39.9                   | 60                        | -20.1          | -                          | -                     |
| 26     | 22.76025        | 16.86                | Ca  | 0           | .3            | 10.4         | 27.56                  | -                         | -              | 50                         | -22.44                |

Qp - Quasi-Peak detector

Ca - CISPR average detection

## 12. FINAL POWER SETTING

| All Power numbers in Q's |           | Channel ID | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   |            |
|--------------------------|-----------|------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------------|
| SKU                      | Countries | Center Fre | 2412 | 2417 | 2422 | 2427 | 2432 | 2437 | 2442 | 2447 | 2452 | 2457 | 2462 | 2467 | 2472 | 2484 | Comment    |
| SISO                     | FCC/IC    | 11b        | 12.5 |      |      |      |      | 12.5 |      |      |      |      | 12.5 |      |      |      | See Note 1 |
|                          |           | 11g        | 12.5 | 16   | 17   |      |      | 17   |      | 17   | 15   | 14   | 10.5 |      |      |      |            |
|                          |           | 11n 20     | 11.5 | 14   | 15   |      |      | 15   |      |      | 15   | 13.5 | 10   |      |      |      |            |
|                          |           | 11n 40     |      |      | 9    | 9.5  | 11   | 11.5 | 10   | 8.5  | 8.5  |      |      |      |      |      |            |